CITY OF URBANA

BICYCLE FRIENDLY COMMUNITY
2010-2018
GOLD
THE LEAGUE OF AMERICAN BICYCLISTS

CLIMATE ACTION PLAN

PHASE 2: 2015-2020

City of Urbana, Illinois

U.S. GREEN BUILDING COUNCIL MEMBER SM

energy ENERGY STAR

ACKNOWLEDGEMENTS

Urbana Sustainability Advisory Commission

Marya Ryan, *Chair*
Stephen Wald, *Vice-Chair*
Bart Bartels
Todd Rusk
Andrew Stumpf
Rachel Vellenga
Morgan Johnston
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Carol C. Ammons, *Ward 3*
Bill Brown, *Ward 4*
Dennis P. Roberts, *Ward 5*
Michael P. Madigan, *Ward 6*
Diane W. Marlin, *Ward 7*

Comments on the Urbana Climate Action Plan Phase 2 can be made via:

Mail: City of Urbana, 706 S. Glover Ave. Urbana, Illinois 61802
Website: www.urbanaillinois.us/sustainability

Discuss Climate Action in Urbana at:

Facebook: www.facebook.com/sustainableurbana

CONTENTS

OUR UNDERSTANDING

- Climate change is happening now.
- Some climate impacts are inevitable.
- Some climate impacts are still avoidable if greenhouse gas pollution is reduced.

OUR VALUES

- We value mitigation of climate change to reduce pollution, save money, and improve quality of life.
- We value adaptation to climate impacts to help protect people and property.

OUR GOALS

- 25% reduction in greenhouse gas emissions by 2020 from a 2007 baseline.
- 80% reduction in greenhouse gas emissions by 2050 from a 2007 baseline.
- Adaptation to climate impacts.

6 GOALS : 23 ACTIONS

THE URBANA CLIMATE ACTION PLAN PHASE 2 RECOMMENDS 23 ACTIONS TO ACHIEVE 6 CLIMATE GOALS:

1 REDUCE EMISSIONS FROM ENERGY USE IN THE BUILT ENVIRONMENT

Action 1 Propose an ordinance or policy requiring new City facilities to achieve LEED certification
Action 2 Propose an ordinance incentivizing or requiring new homes to achieve the Designed to Earn the ENERGY STAR certification, LEED certification, or Passive House certification
Action 3 Propose an ordinance incentivizing or requiring new commercial buildings achieve the Designed to Earn the ENERGY STAR certification, LEED certification, or Passive House certification
Action 4 Engage Ameren Illinois to facilitate energy data access for commercial facilities through ENERGY STAR Portfolio Manager web services
Action 5 Seek funding for the Urbana Home Energy Performance program*
Action 6 Evaluate opportunities to retrofit existing outdoor lighting with more energy efficient lighting

2 REDUCE TRANSPORTATION EMISSIONS FROM FOSSIL FUELS

Action 1 Evaluate existing zoning and development codes for possible integration of LEED-ND and other green development standards
Action 2: Reduce single occupancy vehicle mode share from 51.6% to 40%

3 INCREASE RENEWABLE ENERGY PURCHASING AND INSTALLATION

Action 1 Purchase Green Power Partnership qualified renewable energy credits in future municipal electric aggregation agreements*
Action 2 Purchase Green Power Partnership qualified renewable energy credits and/or the installation of onsite renewable energy for City facilities
Action 3 Pursue long term purchase of bundled renewable power and renewable energy credits
Action 4 Propose strategies to improve the local onsite renewable energy market
Action 5 Propose strategies to increase renewable energy purchasing in the commercial sector*

4 ADAPT TO CLIMATE CHANGE IMPACTS

Action 1 Engage the Illinois State Water Survey to evaluate an update to design storm standards
Action 2 Evaluate funding needed to increase the tree pruning cycle to preserve existing trees
Action 3 Incorporate pollinator-supportive plant species in City landscapes
Action 4 Reduce tree species, genus, and family preponderance to 5%, 15%, and 30% respectively

5 PARTNER TO ENHANCE LOCAL PARTICIPATION IN EXISTING PROGRAMS

Action 1 Partner with existing energy efficiency programs and community groups
Action 2 Partner with organizations conducting smart grid education and engagement
Action 3 Partner with the Green Power Partnership
Action 4 Partner with the local tenant unions

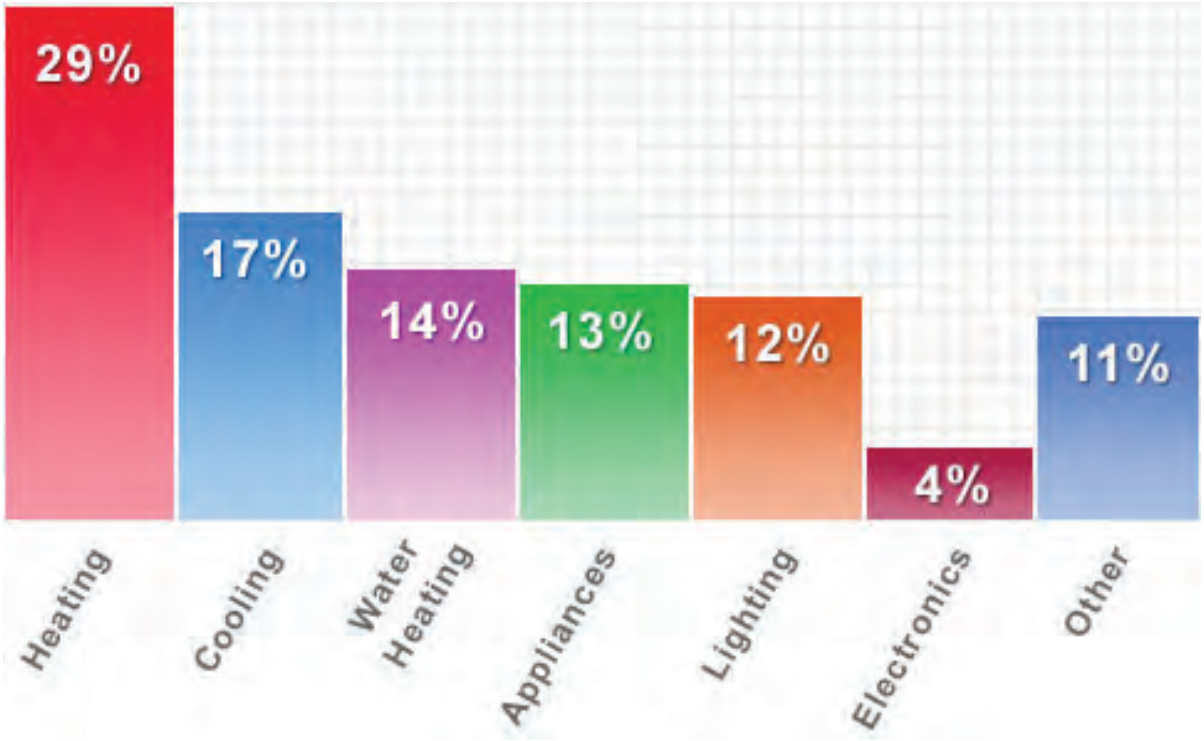
6 MONITOR PROGRESS TOWARDS CLIMATE ACTION PLAN GOALS

Action 1 Work with the Sustainability Advisory Commission to inventory greenhouse gas emissions and evaluate emissions reduction strategies every two years
Action 2 Work with the Sustainability Advisory Commission to create a new plan to reduce greenhouse gas emissions for the 2020 to 2050 period

* denotes Actions of Significant Impact listed on page 21

2. BACKGROUND

Typical U.S. Household Consumption



Source: www.energystar.gov

2.1 Background

Key Acronyms and Terms

ActOnEnergy a service of the Ameren Illinois Utilities that provides energy saving resources and incentive programs to their customers

CAP Climate Action Plan Phase 1 for the City of Urbana identifying initial strategies to achieve the goal of reducing community-wide greenhouse gas emissions by 25% by the year 2020 and 80% by 2050 from a 2007 baseline

ENERGY STAR a government-backed program helping businesses and individuals protect the environment through energy efficiency measures

ENERGY STAR Portfolio Manager an online tool used to measure and track energy and water consumption and greenhouse gas emissions for buildings

GHG greenhouse gas

Green Power electricity produced from solar, wind, geothermal, biogas, eligible biomass, and low-impact small hydroelectric sources

Green Power Partnership a voluntary U.S. Environmental Protection Agency program supporting the use of green power and purchase of renewable energy credits from green power sources to reduce the environmental impacts associated with conventional electricity use

ICLEI International Council for Local Environmental Initiatives

Illinois Home Performance a program where home and property owners decrease their energy costs and increase the comfort, safety, durability, and value of their homes by working with qualified contractors to take a "whole-home" approach to energy upgrades

kWh a kilowatt hours is a unit of energy equal to 1,000 watt-hours

LEED Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings, homes and neighborhoods created and maintained by the United States Green Building Council

LEED-ND LEED for Neighborhood Development is a system for rating and certifying green neighborhoods

MTCO2e Metric Tons of CO2 (Carbon Dioxide) equivalent

Passive House a voluntary building energy efficiency standard requiring no more than 15 kWh/m² per year (4746 btu/ft² per year) in heating and 15 kWh/m² per year cooling energy OR to be designed with a peak heat load of 10W/m²

RECs renewable energy credits are tradable, non-tangible energy commodities in the United States that represent the environmental attributes of 1000 kWh of renewable electricity generation from sources such as wind or solar

RPS a renewable portfolio standard requires some percentage of a state's electricity generation be derived from renewable sources

Smart Grid a next-generation electrical power system that is typified by the increased use of communications and information technology in the generation, delivery and consumption of electrical energy

Solar Ready means aspects of building design and construction that ease installation of solar photovoltaic and heating systems at some time after the building is constructed

Therms a unit of energy equivalent to 100,000 British thermal units

TIF Tax Increment Financing is a public sector method to finance redevelopment

U-C ENERGY STAR Challenge a competition sponsored by multiple agencies and organizations in the community where buildings in Urbana and Champaign attempt to achieve the greatest energy use reduction in 2014

Urbana Home Energy Performance a 2010-2012 partnership with Ameren Illinois and the City of Urbana to use American Recovery and Reinvestment Act funds to provide enhanced energy efficiency rebates

2.2 Phase 1 of Urbana's Climate Action Plan

In 2012, Urbana approved Phase 1 of the City's Climate Action Plan which laid out activities through the end of 2014. The purpose of Phase 1 was to implement a small number of tried and true initiatives to reduce greenhouse gasses while also evaluating additional initiatives to implement in Phase 2, including climate change adaptation initiatives.

Phase 1 Actions In Progress or Completed:

(5%)	of energy efficiency project costs rebated in City TIF redevelopment program
(62)	buildings registered in U-C ENERGY STAR Challenge for commercial buildings
(27)	participants in green building tour
(11)	responses to energy efficient commercial behaviors survey
(84,252)	Renewable Energy Credits purchased in 2013 through Municipal Electric Aggregation
(1)	meeting with cities, university, and wind energy developer to evaluate bundled power and RECs
(1)	grant application made to fund solar energy market development activities
(59)	responses to energy efficient residential behaviors survey
(11.8)	miles of bicycle infrastructure installed from 2012-2014
(2)	roundabout installation evaluated
(1)	bicycle traffic enforcement and education program established
(8.5%)	of City of Urbana employees participating in 2014 Bike to Work Day Workplace Challenge
(1)	email signature created that highlights available pedestrian/bicycle/bus transportation modes
(3)	bicycles located for City of Urbana employee bike share
(1)	policy established requiring minimum fuel efficiency standards for new City fleet vehicles
(8)	stakeholder participants in energy efficiency in rental properties focus group
(5)	speakers on regional climate impacts and adaptation at Sustainability Advisory Commission meetings
(5)	City Green Team recommendations implemented to improve City environmental performance
(1)	training with Urbana School District teachers on energy and climate issues
(1)	completed greenhouse gas inventory baseline and updated 2013 inventory

Focus Groups and Surveys in Section 5 Appendices

- Energy Efficient Residential Behaviors Survey
- Energy Efficient Commercial Behaviors Survey
- Energy Efficient Transportation Behaviors Survey
- Energy Efficiency in Rental Properties Focus Group Summary
- Energy Efficient Industrial Behaviors Focus Group Summary

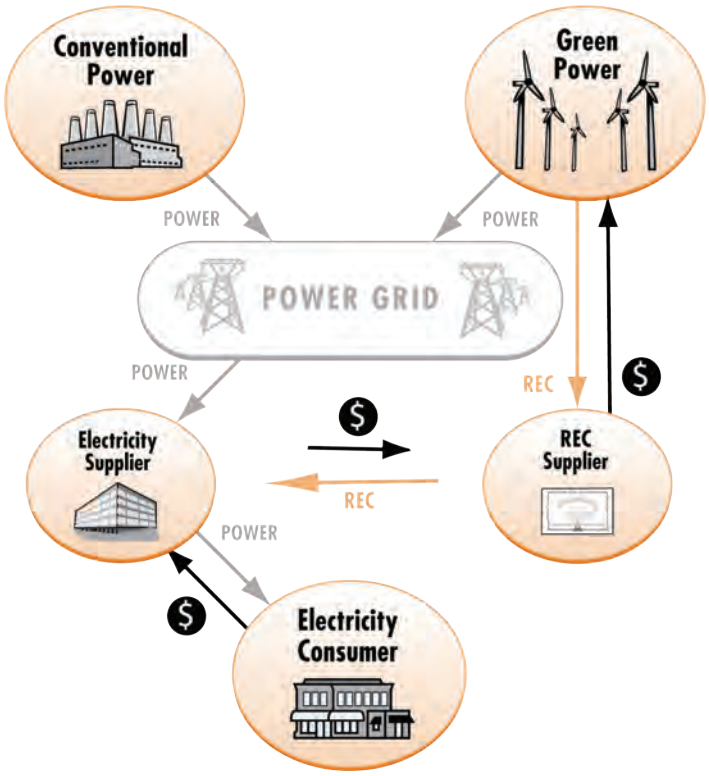
RENEWABLE ENERGY CREDITS OR CERTIFICATES

The purchase of renewable energy credits (RECs) for each kWh used by Urbana residents participating in the City's Municipal Electric Aggregation Program is incorporated into the per kWh price participants pay in the program.

From EPA's Green Power Partnership: Renewable Energy Certificates:

> RECs represent the environmental and other non-power attributes of renewable electricity generation and are a component of all renewable electricity products. RECs are measured in single megawatt-hour increments and are created at the point of electric generation. Buyers can select RECs based on the generation resource (e.g., wind, solar, geothermal), when the generation occurred, as well as the location of the renewable generator.

RECs provide key information about the generation of renewable electricity delivered to the utility grid. Since RECs represent only the environmental or non-power attributes of renewable electricity generation, they are not subject to electricity delivery constraints. The information conveyed by a REC allows buyers to make specific environmental claims about how their electricity is produced.



Source: Adapted from Guide to Purchasing Green Power, Office of Air, U.S. E.P.A., March 2010.

To understand how RECs work, it is helpful to understand how electricity is delivered across the utility grid, as well as what makes renewable electricity generation attractive to individuals and organizational buyers.

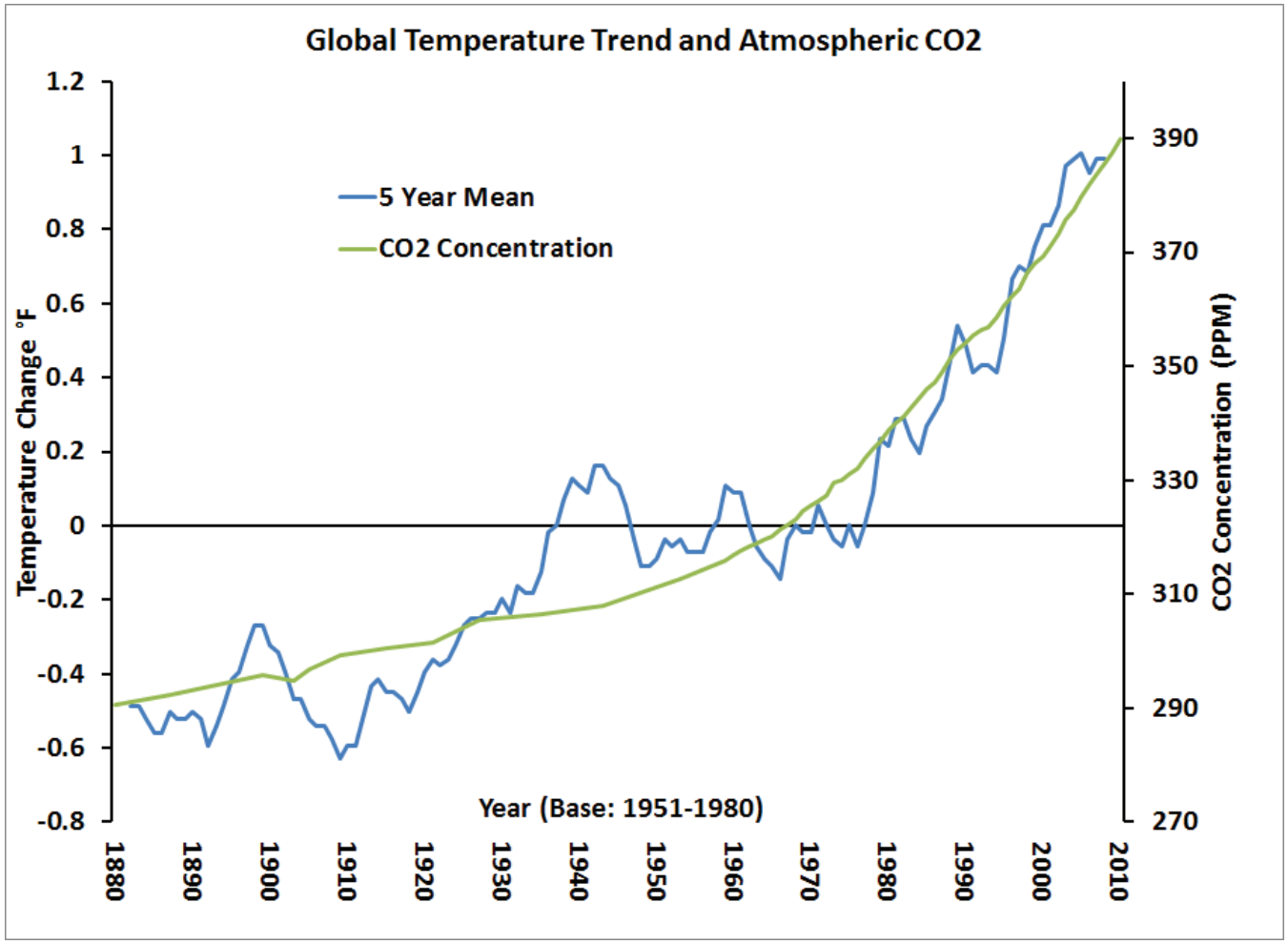
Within the United States, electricity demand is met by various types of generation technologies and fuel resources. These electricity generators feed electrons onto the utility grid for delivery to consumers through a complex network of wires and distribution infrastructure. Because the electrons produced from the different technologies and fuel resources are physically the same, it is impossible for individuals or organizations to know what type of generation technology or resource produced the electricity that reaches their particular facility.

RECs help address the issue that the electricity or electrons a consumer receives from their utility does not identify how the electricity was generated. RECs were created to help convey the attributes of electricity generated from renewable resources to buyers. Analogous to the utility delivering the physical electricity through wires, RECs serve as the means to deliver the environmental and non-power attributes of renewable electricity generation to buyers – separate from the physical electricity. (See Figure 1.) All renewable electricity generation can be viewed as having two separate parts:

1. The commodity electricity or electrons
2. The environmental and other non-power attributes of generation represented by a REC

Because RECs are monitored and verified, individuals and organizational buyers can buy RECs and be confident that electricity generated on their behalf was done so with renewable energy resources.

3. METHODOLOGY, INVENTORY, & PROJECTIONS



Source: Center for Climate and Energy Solutions

3.1 Methodology

CALCULATION METHOD

Greenhouse Gas Protocol:
Urbana, like most cities, uses the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions "developed by ICLEI-Local Governments for Sustainability USA (ICLEI USA) to respond to the expressed needs of local governments in the United States for a standardized methodology for accounting and reporting on GHG emissions associated with individual communities (www.icleiusa.org)."

Greenhouse Gas Modeling Tool:
Following the development of the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, ICLEI developed a new greenhouse gas modeling protocol to match the standards of the new Protocol. ICLEI's ClearPath program "is an all-in-one suite of online tools to complete GHG inventories, forecasts, and climate action plans at the community-wide or government operations scale (www.icleiusa.org)."

University Related Emissions:
Electricity and natural gas consumption data from University of Illinois buildings in Urbana are not included in the City of Urbana baseline inventory, as the emissions resulting from the sources of this energy and University activities in these buildings are accounted for in the University's Climate Action Plan (iCAP). Emissions related to the University transportation and solid waste sectors are included in the Urbana Climate Action Plan baseline inventory, as services offered by the City and other non-university jurisdictions (such as improved sustainable transportation infrastructure and higher recycling rates) can positively impact emissions related to these sectors.

Baseline Inventory Adjustments:
The City of Urbana baseline inventory was reassessed for the publication of the Climate Action Plan Phase 2. The reassessment was performed for several reasons. ICLEI's published a new greenhouse gas accounting protocol for the U.S., ICLEI released a more sophisticated greenhouse gas accounting tool, and the utility company changed the manner in which city-wide data is queried and aggregated from their computer systems.

ICLEI Local Governments for Sustainability USA

3.2 INVENTORY

A. 2007 GREENHOUSE GAS EMISSIONS

URBANA'S 2007 BASELINE COMMUNITY GREENHOUSE GAS EMISSIONS REPORT BY SECTOR
IN METRIC TONS CO_2 EQUIVALENT

Sector	Quantity
Residential energy consumption	145,610
Commercial energy consumption	259,684
Industrial energy consumption	8,658
Transportation energy consumption	110,189
Solid waste landfilled	15,389
Water and Wastewater	325
Total	**539,855**
Non-Campus Population in 2007	33,968
Per Capita Greenhouse Gas Emissions in 2007	**15.89 MT/Resident**

B. 2013 GREENHOUSE GAS EMISSIONS

URBANA'S 2013 COMMUNITY GREENHOUSE GAS EMISSIONS REPORT BY SECTOR
IN METRIC TONS CO_2 EQUIVALENT

Sector	Quantity
Residential energy consumption	76,177
Commercial energy consumption	262,117
Industrial energy consumption	30,481
Transportation energy consumption	107,252
Solid waste landfilled	10,820
Water and Wastewater	353
Total	**487,200**
Non-Campus Population in 2013	36,665
Per Capita Greenhouse Gas Emissions in 2013	**13.29 MT/Resident**

*Residential energy consumption above includes reduction provided by REC purchases in 2013 equaling 69,559 MTCO2e

C. URBANA'S GREENHOUSE GAS EMISSIONS REDUCTION GOALS

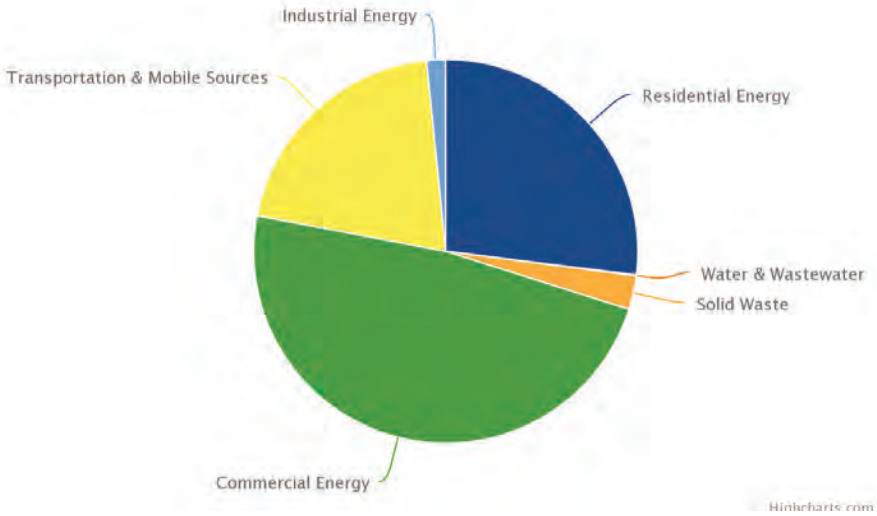
Continuous improvement to reach:
25% reduction in greenhouse gas emissions by 2020 or 404,891 Metric Tons CO2e total
80% reduction in greenhouse gas emissions by 2050 or 107,971 Metric Tons CO2e total

D. 2013 GREENHOUSE GAS EMISSIONS COMPARISON TO BASELINE

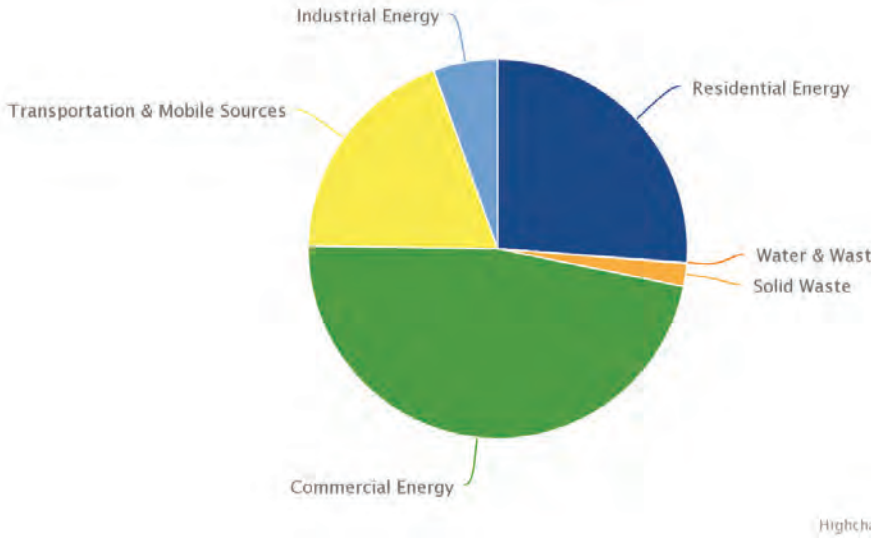
URBANA'S 2007 AND 2013 COMMUNITY GREENHOUSE GAS EMISSIONS REPORT BY SECTOR
IN METRIC TONS CO_2

Sector	2007	2013	% Change
Residential energy consumption	145,610	76,177	-47.68%
Commercial energy consumption	259,684	262,117	0.94%
Industrial energy consumption	8,658	30,481	252.06%
Transportation energy consumption	110,189	107,252	-2.67%
Solid waste landfilled	15,389	10,820	-29.69%
Water and Wastewater	325	353	8.62%
Total	**539,855**	**487,200**	**-9.75%**

2007 GHG Emissions by Sector

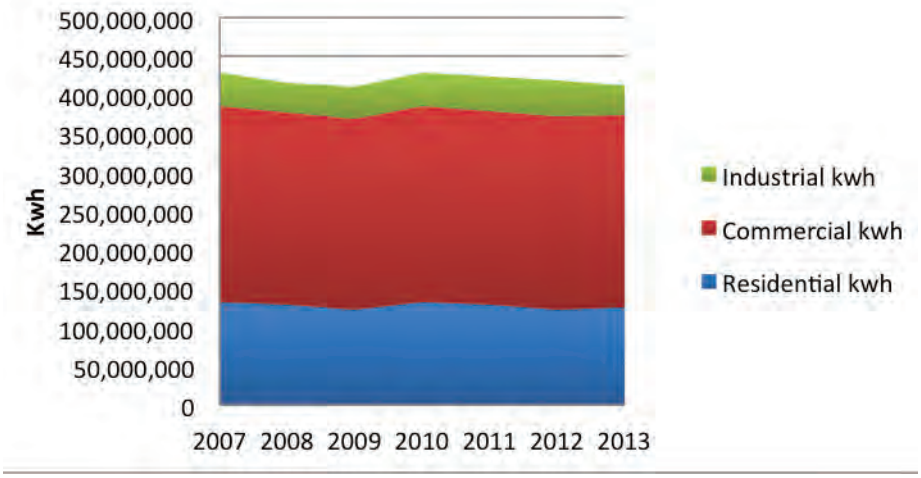


2013 GHG Emissions by Sector

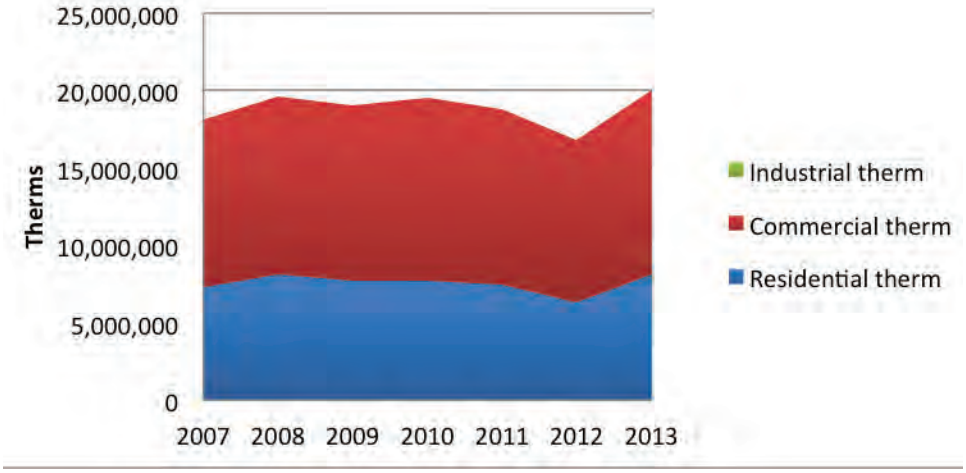


E. UTILITY ELECTRICITY AND GAS CONSUMPTION TRENDS

Urbana Electricity Consumption in kWh



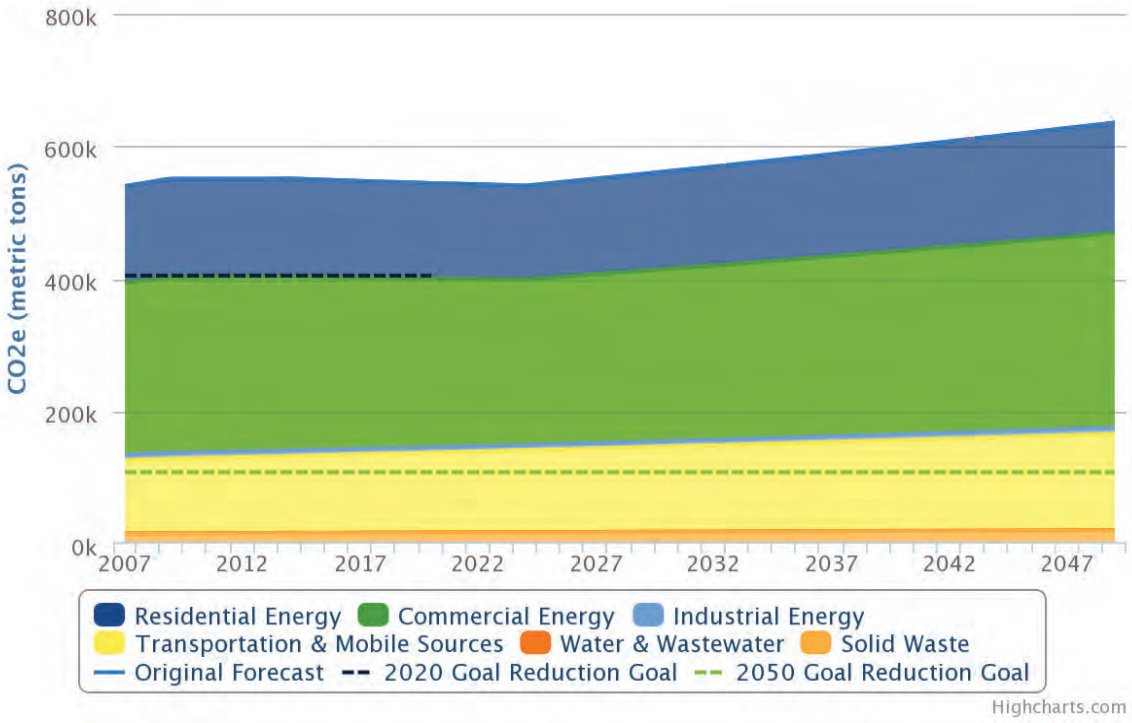
Urbana Natural Gas Consumption in Therms



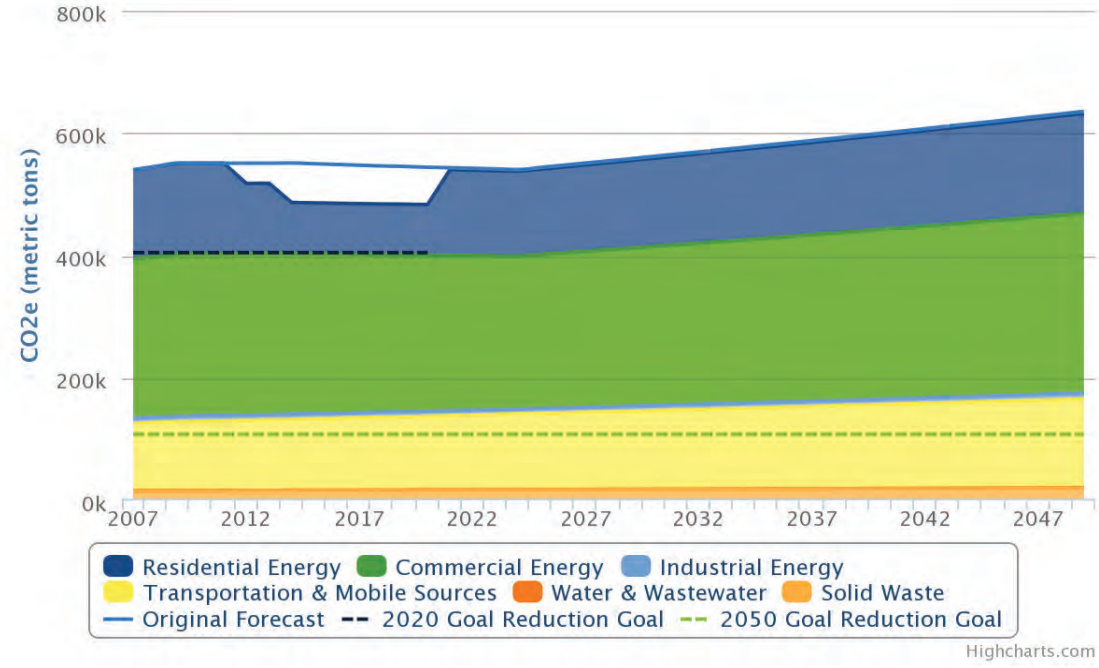
Industiral therms of natural gas are so small relative to other sectors, that they don't show up on the graph.

A. PLANNING PROJECTIONS

2007 to 2050 GHG Emissions Projection with Renewable Portfolio Standard

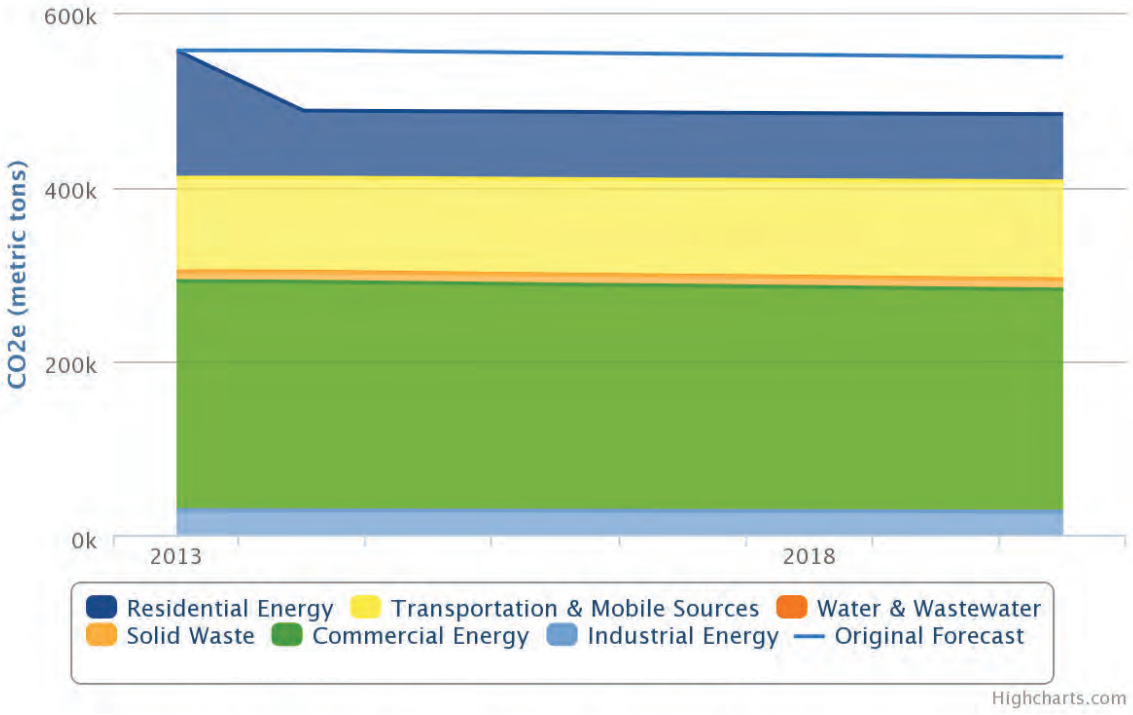


2007 to 2050 GHG Emissions Projection with Renewable Portfolio Standard and RECs through 2020



B. PLANNING PROJECTIONS

2013 to 2020 GHG Emissions Projection with Renewable Portfolio Standard and RECs through 2020



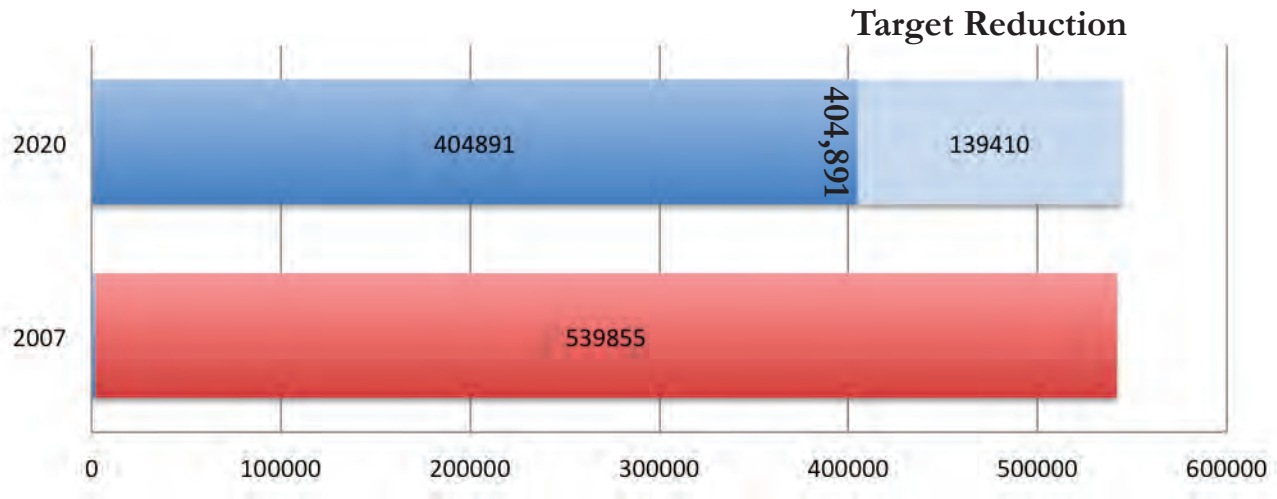
4. GOALS & ACTIONS

Source: Champaign-Urbana Mass Transit District

4.1 EMISSIONS REDUCTION GOALS

25% reduction in greenhouse gas emissions by 2020 to 404,891 MTCO2e total
» 134,964 MTCO2e reduction

80% reduction in greenhouse gas emissions by 2050 to 107,971 MTCO2e total
» 431,884 MTCO2e reduction

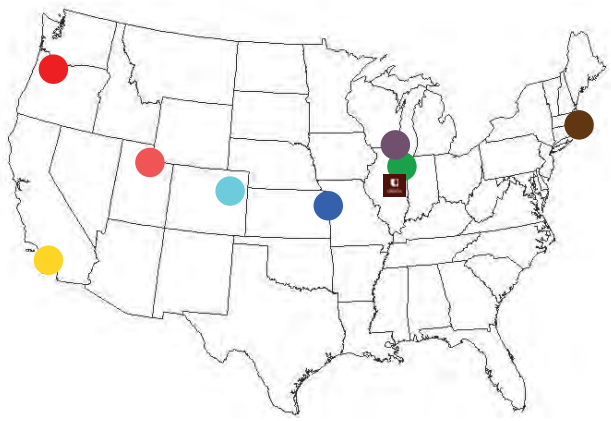


4.1 EMISSIONS REDUCTION GOALS

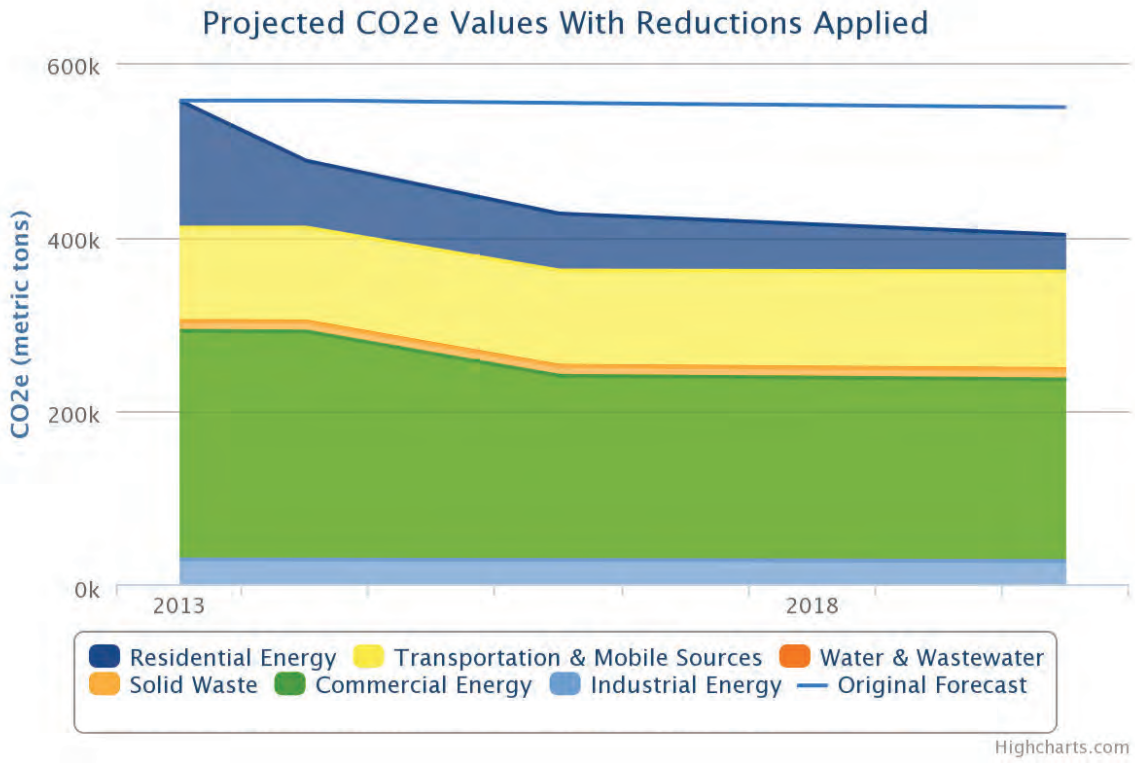
CITY	GOAL	PROGRESS
Urbana, IL	25% below 2007 levels by 2020	-10% as of 2013*

*Includes accounting for Illinois Renewable Portfolio Standard and purchase of renewable energy credits

CITY	GOAL	PROGRESS
Portland, OR	40% below 1990 levels by 2030	-6% as of 2010
Los Angeles, CA	35% below 1990 levels by 2030	-7% as of 2012
Salt Lake City, UT	80% below 2005 levels by 2040	No data
Denver, CO	Achieve 1990 levels by 2020	-4% as of 2012
Kansas City, MO	30% below 2000 levels by 2020	Seeking $80,000 to conduct inventory
Evanston, IL	17% below 1990 levels by 2020	-12% as of 2012
Chicago, IL	25% below 1990 levels by 2020	+2% as of 2010
Boston, MA	25% below 2005 levels by 2020	-11% as of 2011



4.2 ACTIONS OF SIGNIFICANT IMPACT



The above scenario demonstrates how the 25% reduction in greenhouse gas emissions by 2020 to 404,891 MTCO2e total can be met by applying the following strategies:

- **Renewable energy credits purchase for all residential electric use from 2014 to 2020**
- **Home Energy Performance program rebates from 2015 to 2020**
- **Energy efficiency and/or renewable energy credits equaling 8% of commercial electric use from 2015-2020**

For a more comprehensive list of greenhouse gas reduction tactics, please refer to page 52-53 of Phase 1 of the Climate Action Plan excerpted in Appendix 5.9.

Renewable Energy Credits Purchase

- Renewable energy credits purchase for all residential electric use from 2014 to 2020 would achieve 45% of our 2020 reduction goal.
- Estimated cost: Zero cost to the City. $0.0016 per kWh is paid by ratepayers opted into municipal electric aggregation totaling approximately $134,000.00 per year for our community.

Home Energy Performance Rebates

- Restarting Urbana's Home Energy Performance program from 2015 to 2020 would achieve 28% of our 2020 reduction goal.
- This program offered enhanced rebates for energy efficiency measures undertaken through Ameren ActOnEnergy.
- Estimated cost: $60,000 per year cost to the City. Additional costs to homeowner participants.

Energy Efficiency and/or RECs in Commercial Sector or Other Sector

- Energy efficiency and/or renewable energy credits equalling 8% of commercial electric use from 2014-2020 would achieve 27% of our 2020 reduction goal.
- Potential commercial sector strategies may include financial incentives, energy benchmarking, or new financing models.
- Estimated cost: Estimated program cost for commercial reduction through financial incentives strategy: $76,000 per year. Estimated program cost for commercial reduction through benchmarking strategy: $490,000 per year. Estimated cost for commercial reduction through RECs: $82,000 per year. Additional costs to business participants.

4.3 GOAL 1: REDUCE EMISSIONS FROM ENERGY USE IN THE BUILT ENVIRONMENT

Action 1: Propose an ordinance or policy requiring new City facilities to achieve LEED Certification

- Such a policy should set a square footage applicability requirement and a minimum level of certification.

Action 2: Propose an ordinance incentivizing or requiring new homes to achieve the Designed to Earn the ENERGY STAR certification, LEED certification, or Passive House certification

- Such a policy should set a square footage applicability requirement and a minimum level of certification.

Action 3: Propose an ordinance incentivizing or requiring new commercial buildings achieve the Designed to Earn the ENERGY STAR certification, LEED certification, or Passive House certification

- Such a policy should set a square footage applicability requirement and a minimum level of certification.
- A 2003 study by KEMA, an energy consultanting firm, found that the lowest certification level of LEED incurred an extra cost of no more than 2.5% of total project cost.

Action 4: Engage Ameren Illinois to facilitate energy data access for commercial facilities with ENERGY STAR Portfolio Manager Web Services

- ENERGY STAR Portfolio Manager is used by a quarter million commercial buildings across the country to benchmark, track, and improve building energy performance. It is the program used to receive ENERGY STAR certification for a commercial building.
- Portfolio Manager is set up to transfer utility company energy use digitally into the building owner's account saving an enormous amount of time on data input and easing adoption of energy management.

Action 5: Seek funding for the Urbana Home Energy Performance program *

- The Urbana Home Energy Performance program (2010 to 2012) achieved a very low cost for each MTCO2e reduced.
- $5.26 was invested for each MTCO2e reduced not including the funds spent by Ameren ActOnEnergy.
- $69.25 was invested for each MTCO2e reduced including the funds spent by Ameren ActOnEnergy.

Action 6: Evaluate opportunities to retrofit existing outdoor lighting with more energy efficient lighting

Source: U.S. Environmental Protection Agency

4.3 GOAL 2: REDUCE TRANSPORTATION EMISSIONS FROM FOSSIL FUELS

Action 1: Evaluate existing zoning and development codes for possible integration of LEED-ND and other green development standards

- LEED-ND combines energy efficient buildings with an energy efficient street pattern and urban form to create more sustainable places.

Action 2: Reduce single occupancy vehicle mode share from 51.6% to 40%

- Evaluate strategies to increase pedestrian, bike, carpool, and transit mode share
- Implement recommendations from the Urbana Bicycle Master Plan to achieve the next level of certification as a Bicycle Friendly Community.
- Support creation of a pedestrian master plan
- Encourage transit ridership

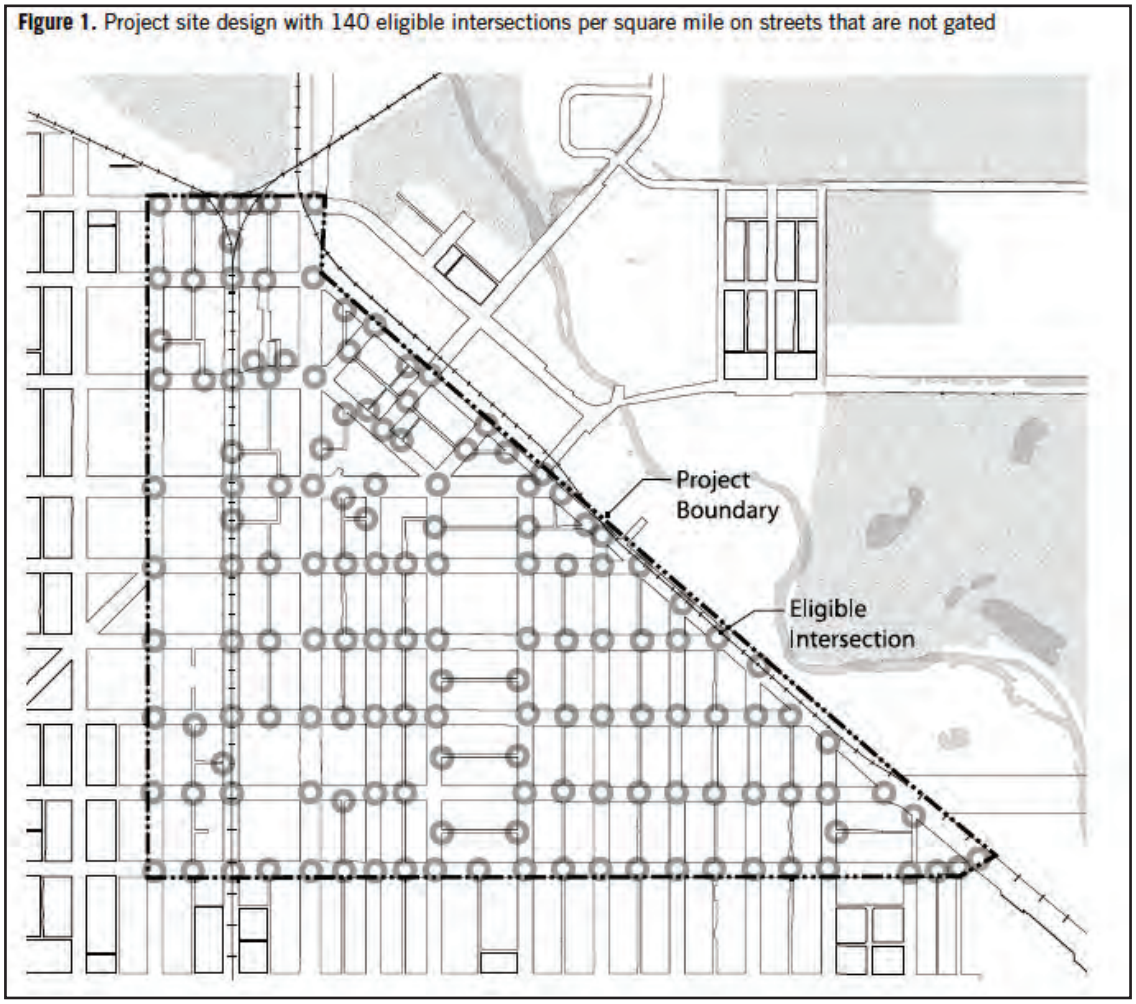


Figure 1. Project site design with 140 eligible intersections per square mile on streets that are not gated

Source: LEED 2009 For Neighborhood Development

4.3 GOAL 3: INCREASE RENEWABLE ENERGY PURCHASING AND INSTALLATION

Action 1: Purchase Green Power Partnership qualified renewable energy credits in future municipal electric aggregation agreements*

- Urbana currently buys RECs equal to 100% of residential electricity use.
- Specification of Illinois generated RECs should be considered.

Action 2: Purchase Green Power Partnership qualified renewable energy credits and/or the installation of onsite renewable energy for City facilities

- Renewable energy credits (RECs) are generated offsite by large renewable energy facilities. These represent an environmental attribute that can be valued in the marketplace and traded, granting the purchaser the environmental attributes.
- Onsite renewables, while more expensive than RECs, provide long term clean energy and price stability.

Action 3: Pursue long term purchase of bundled renewable power and renewable energy credits

- Bundled power and RECs preclude the splitting of the two into separate markets with differing sales prospects.
- Bundled power and RECs on long term contracts send a powerful market signal demonstrating reliable demand for renewable energy.

Action 4: Propose strategies to improve the local onsite renewable energy market

- Services that map rooftop solar energy capacity can reduce uncertainty for potential buyers.
- Permitting practices should be tuned to minimize barriers to onsite renewable energy.
- Group purchasing of rooftop solar can reduce the soft costs of solar installations. Chicago is implementing a group purchase presently.
- Policies that ensure new buildings are 'solar ready' can ease the installation of solar panels at a later date.

Action 5: Propose strategies to increase renewable energy purchasing in the commercial sector*

- Commercial facilities can purchase bundled or unbundled RECs just as the City does for municipal electric aggregation.

Source: Armin Kübelbeck via Wiki Commons

Action 1: Engage the Illinois State Water Survey to evaluate an update to design storm standards

- Design storm standards in Technical Bulletin 70 of the Illinois State Water Survey (part of the Prairie Research Institute at the University of Illinois) define the 50 year storm event as having an intensity duration relationship that has a probability of being equaled or exceeded, on the average, once in a period of 50 years.
- Climate change may necessitate an update of these design standards.

Action 2: Evaluate funding needed to increase the tree pruning cycle to preserve existing trees

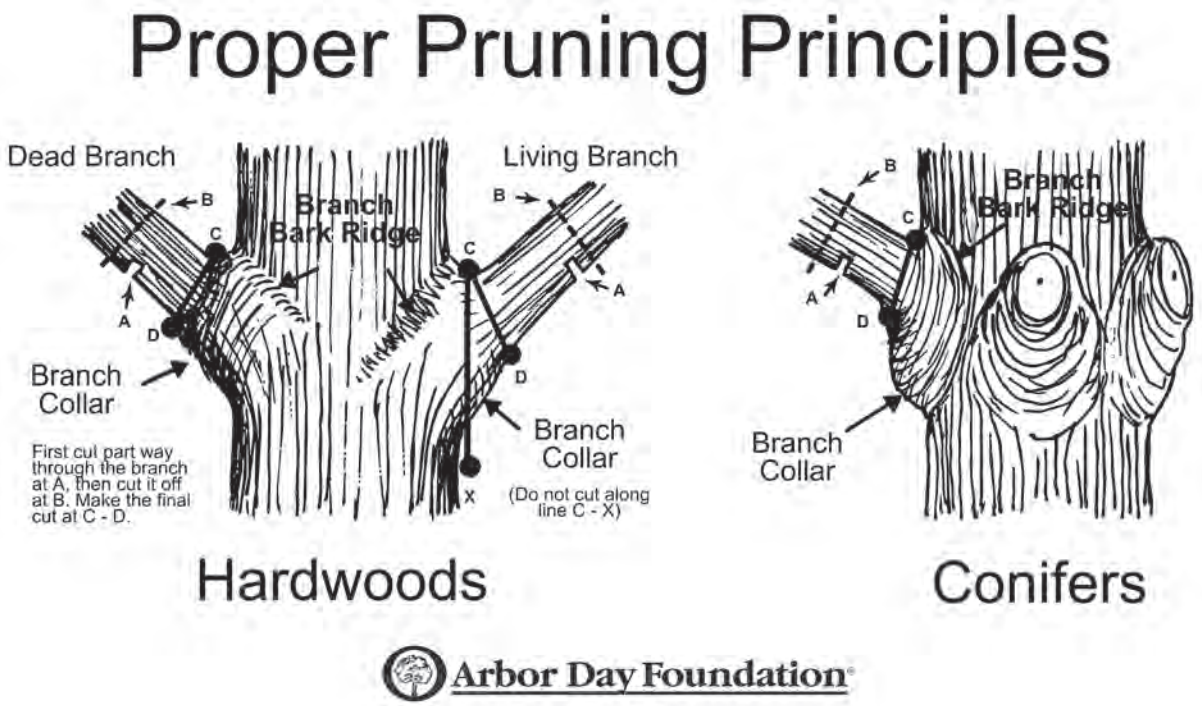
- Existing trees will sink more carbon and hold it longer when regularly pruned.
- Current Urbana cycle is thirteen years. The industry standard is five years.

Action 3: Incorporate pollinator-supportive plant species in City landscapes

- Plant selections that provide food and shelter to insect pollinators can support pollination of both food crops and landscape plantings.

Action 4: Reduce tree species, genus, and family preponderance to 5%, 15%, and 30% respectively

- Current best practice in Arborculture is to have no single species above 10% of the total urban forest and no single genus above 20% and no single family above 30% of the total urban forest. Urbana has no single species above 5.5% and no single genus above 20%. The percentages of families is unknown.
- Greater diversity in the street trees will minimize vulnerability to extreme weather events.



Source: Arbor Day Foundation

4.3 GOAL 5: PARTNER TO ENHANCE LOCAL PARTICIPATION IN EXISTING PROGRAMS

Action 1: Partner with existing energy efficiency programs and community groups

- Utilize partnerships to increase the number of households and businesses in existing programs such as Ameren ActOnEnergy, ENERGY STAR, and Illinois Home Performance.

Action 2: Partner with organizations conducting smart grid education and engagement

- The Illinois Science and Energy Innovation Foundation is making grant funds available for promotion and education about smart grid technologies. Urbana can assist local organizations interested in providing public education and engagement on smart grid technologies.

Action 3: Partner with the Green Power Partnership

- Utilize partnerships to increase the number of Urbana businesses participating in the US EPA's Green Power Partnership by using and reporting green power.

Action 4: Partner with the local tenant unions

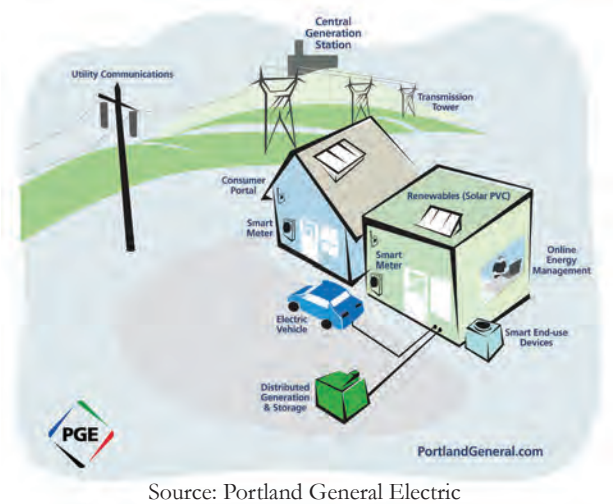
- Work with the tenant unions to promote energy efficient behaviors in rental residences.

GOAL 6: MONITOR PROGRESS TOWARDS CLIMATE ACTION PLAN GOALS

Action 1: Work with the Sustainability Advisory Commission to inventory greenhouse gas emissions and evaluate emissions reduction strategies every two years

Action 2: Work with the Sustainability Advisory Commission to create a new plan to reduce greenhouse gas emissions for the 2020 to 2050 period

Idealized Example of a Smart Grid



Source: Portland General Electric