



DEPARTMENT OF COMMUNITY DEVELOPMENT SERVICES

Planning Division

m e m o r a n d u m

TO: Urbana Plan Commission
FROM: Aditi Kambuj, Planner I
DATE: September 27, 2012
SUBJECT: Urbana's Climate Action Plan Phase 1

Introduction and Background

Mayor Laurel Prussing in 2007 signed the U.S. Mayor's Climate Protection Agreement. The Agreement urges participating local governments to take action in their own operations and for the wider community to meet or exceed the Kyoto Protocol targets for reducing greenhouse gas emissions contributing to global climate change. (See Appendix A of the draft Plan.)

In 2005, the Urbana City Council established a Common Goals Initiative that included several objectives to reduce Urbana's environmental footprint, and to achieve a sustainable quality of life for Urbana's residents. In 2008, the Mayor and Urbana City Council created the Sustainability Advisory Commission (SAC). Composed of seven appointed community members, the role of the SAC is to advise the City on ways to sustainably manage natural resources generally, and water and energy particularly. The Commission, with City staff assistance, has prepared a draft Climate Action Plan intended to provide the basis for policies and programs which would be the most effective in reducing greenhouse gas emissions and energy use while maintaining our quality of life and economic development.

The draft Climate Action Plan identifies the major sources of greenhouse gases produced on behalf of Urbana, goals to reduce greenhouse gas emissions, and the most effective ways to reduce energy consumption and greenhouse gas emissions. If approved by the City Council, the Climate Action Plan Phase 1 would become the guiding document for policy and planning decisions for climate action in Urbana. The Plan Commission is asked to identify and discuss any planning concerns regarding the draft plan. The draft plan will be presented to the Committee of the Whole at their October 8, 2012 meeting for possible approval at the October 15, 2012 City Council meeting.

The Draft Urbana Climate Action Plan can be viewed and downloaded from the City of Urbana's website at www.urbanaininois.us/climateactionplan . If you would prefer a paper copy, please contact me (Aditi Kambuj) at (217) 384-2440 or adkambuj@urbanaininois.us.

Policy Basis

Adoption of a Climate Action Plan would provide a sound basis for implementing several City Council Goals and City of Urbana policies already in place.

2005 Comprehensive Plan

Urbana's Comprehensive Plan provides the framework for planning and development in and around the City. Several Comprehensive Plan goals and objectives directly relate to sustainability, covering topics such as sensible growth, energy conservation, preservation of natural resources, increasing the City's tree inventory, and providing access to affordable housing and transit, just to name a few. Most directly, adoption of the draft Climate Action Plan would help implement the following Comprehensive Plan goal and objectives.

Goal 5.0 Ensure that land use patterns conserve energy.

Objectives

- 5.1 Encourage development patterns that help reduce dependence on automobiles and promote different modes of transportation.
- 5.2 Promote building construction and site design that incorporates innovative and effective techniques in energy conservation.

2010 Urbana City Council and Mayor Goals

5) Goal: Environmental Sustainability

A. Strategy: Adopt principles to provide overall guidance on sustainability issues including air, water, and energy.

- Evaluate all city projects with respect to sustainability, such as waste water, street lighting, energy usage, storm water runoff, and similar issues.
- Incorporate energy-saving systems, including renewable energy sources, storm water best management practices, bicycle and pedestrian facility upgrades.
- Develop innovative programs and regional partnerships to support energy efficiency of private homes, businesses and municipal buildings.

B. Strategy: Adopt a climate action plan.

- Set significant and achievable targets for greenhouse gas emissions.
- Adopt a timetable and track progress.

C. Strategy: Provide adequate staffing and resources to develop and implement sustainability plans and programs.

- Develop a "green team" with representatives from all city departments.

D. Strategy: Identify opportunities to provide incentives and promote "green" construction.

- Research updating city code to promote green building.
- Seek changes in state plumbing codes to allow waterless urinals and energy-efficient plumbing vents.

E. Strategy: Develop financing models to fund energy efficiency programs and renewable energy projects, such as contract assessments, revolving loans or grants.

F. Strategy: Support proposed studies of climate change, land use and economic development projections consistent with the cost being broadly shared across interest groups in Champaign County. Work with Champaign County Climate Change Task Force on studies such as solar canopies.

G. Strategy: Develop and implement a formal energy policy for city operations. Include conservation, identification of non-fossil fuel sources, and potential implementation timelines. Continue to increase energy efficiency in all city buildings. Support energy efficiency in residential and commercial sectors by developing innovative programs and regional partnerships.

Additionally, adoption of the Climate Action Plan would be compatible with the following existing adopted plans and policies.

- Champaign County Greenways and Trails Plan (2004)
- Sustainable Urbana: Approach to Strategic Planning Report (2008)

- Boneyard Creek Master Plan (2008)
- Long Range Transportation Plan (2009)
- Champaign County Multi-Jurisdictional Natural Hazard Mitigation Plan (2009)
- Urbana Bicycle Master Plan (2010)
- Downtown Plan (2012)

Public Input

The draft Plan has been developed over the past four years with public input at critical steps along the way. The Sustainability Advisory Commission undertook writing the draft Plan, with assistance from City staff, with Commission meetings open to the public and broadcasted on local television. In 2010, the City of Urbana held open houses on February 24 and March 11 to gather public input on the greenhouse gas inventory and specific reduction targets. Since then, a survey on these topics has also been made available to residents on the City's website. Additionally, SAC members have engaged the public at Urbana's Market at the Square. Public comments received have supported the proposed emissions reduction targets. For a summary of these comments, see page 19 and Appendix C of the draft Plan.

Following the Sustainability Advisory Commission's approval of the final draft for public review on September 4, 2012, the draft Plan was posted on the City of Urbana website along with a feedback web-form. Copies of the Plan along with comment cards were also made available at the Urbana Free Library. Additionally, the draft Plan was available to the public at Urbana's Market at the Square on September 15 and 22. On October 2, 2012 an open house will be held in the Urbana City Council Chambers.

The availability of the draft plan for public review was publicized via a news article on the City's website; the City's Sustainability Facebook page; on *Smile Politely* an independent online magazine in Champaign-Urbana; via a press release in local newspapers; and via video coverage on WICD ABC. City staff members were interviewed by the Daily Illini. Additionally, staff emailed and called neighborhood associations with list-serves.

So far, all Public feedback on the public review draft has been strongly supportive.

Discussion

The Plan was developed following five steps: (1) inventory existing sources and levels of greenhouse gases created on behalf of Urbana, (2) forecast future emissions, (3) create targets for reduced emissions, (4) create goals and action steps, and (5) create the most effective strategies to implement goals. To provide the technical guidance in each step of the process, the City of Urbana joined the International Council for Local Government Initiatives' (ICLEI) Cities for Climate Protection (CCP) Campaign in 2007. ICLEI provides two software programs to assist the 650 participating local governments in their climate planning efforts: the Clean Air and Climate Protection Software (CACP 2009) and the Climate and Air Pollution Planning Assistant (CAPPA). ICLEI also provides internationally standardized emissions factors that are used to convert activity data, like energy use, into associated greenhouse gas emissions factors. ICLEI, CACP and CAPPA allow for a consistent methodology for calculating emissions and comparison between communities.

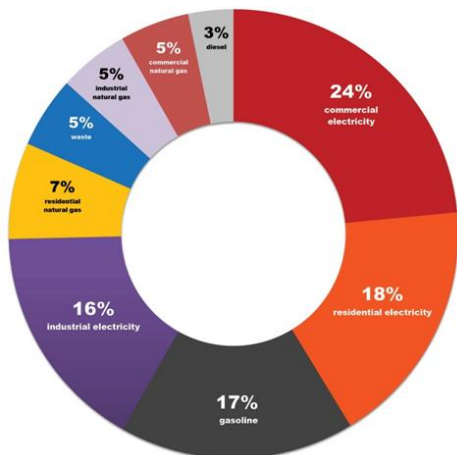
Step 1: Urbana’s Baseline emissions inventory and emissions forecast

A baseline inventory helps determine the levels of greenhouse gas emissions Urbana was responsible for in its baseline year, providing a basis for creating an emissions forecast and setting a reduction target. Since Urbana lacks access to reliable energy consumption data extending back before 2007, the Sustainability Advisory Commission chose 2007 as Urbana’s baseline year. Urbana’s emissions inventory considers emissions from the following major sectors:

- Residential, commercial and industrial building energy consumption
- Transportation fuel consumption
- Solid waste decomposition

Urbana’s baselines emissions inventory revealed that in 2007, Urbana was responsible for 548,700 Metric Tons CO₂ equivalent (MT CO₂e). Fully two-thirds (66%) of Urbana’s greenhouse gas emissions can be accounted for though commercial electricity production, residential electricity production, consumption of gasoline for transportation, and natural gas usage by residences (Fig. 1).

Figure 1: City of Urbana 2007 Baseline Greenhouse Gas Emissions Ranked by Source and Sector



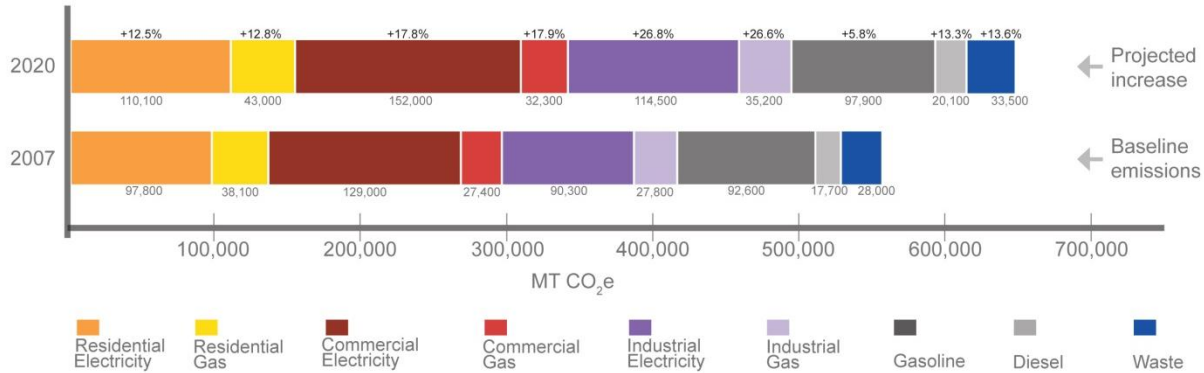
Note: Estimates were calculated using ICLEI’s CACP software.

Step 2: 2020 Emissions Forecast

The Urbana Sustainability Advisory Commission chose to focus Urbana’s initial planning efforts on reducing emissions by the year 2020. A forecast for 2020 emissions was developed using ICLEI’s CACP software. The projected 2020 emissions are a “business-as-usual” forecast depicting the future consequences of continuing current trends in population, economy, urban development, technology and human behavior with respect to energy consumption. The forecast allows the estimation of how emissions in the future might increase or decrease, and therefore helps City staff identify the most appropriate greenhouse gas reduction strategies to help the community achieve its long-range emissions reductions goals. The 2020 emissions projections were developed utilizing data from the same sources used to develop the 2007 baseline and with growth rates developed by City staff and the Champaign County Regional Planning Commission.

As per Urbana’s “business as usual” forecast, emissions will increase to 638,800 MT CO₂e in 2020 (Fig. 2).

Figure 2: 2007 Baseline and 2020 Projected Emissions Increase in a Business as Usual Scenario



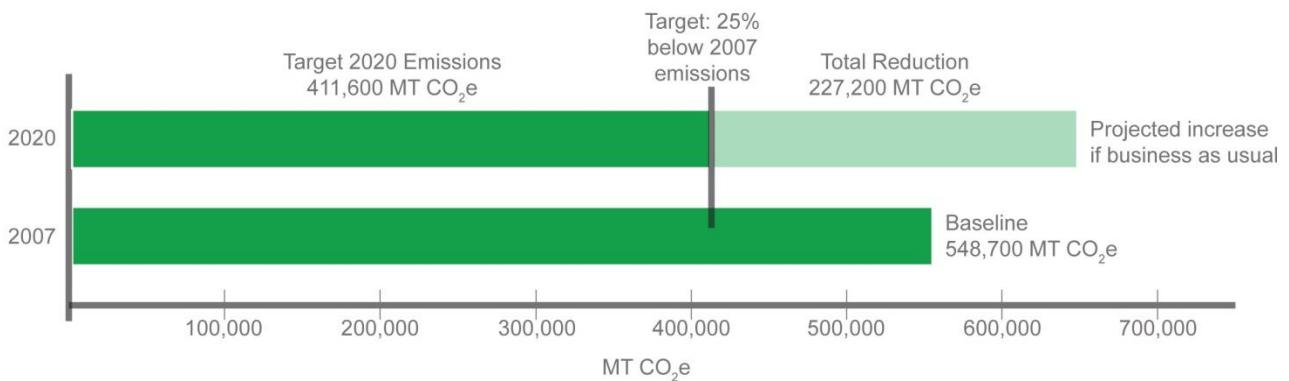
Note: Figures are rounded to the nearest hundred and shown in MT CO₂e

Note: Estimates were calculated using ICLEI’s CACP software.

Step 3: Emissions reduction targets

Urbana’s emissions reduction targets are based on estimates of the impact of current and planned programs as well as likely future opportunities to reduce emissions. Urbana’s emissions reduction target is 25 percent below 2007 levels by 2020 and an 80 percent reduction below 2007 levels by 2050.

Figure 3: GHG Emissions Reduction Goal: 25% below 2007 levels by 2020



Note: Figures are rounded to the nearest hundred and shown in MT CO₂e

Note: Estimates were calculated using ICLEI’s CACP software.

The target is in line with that set by the State of Illinois as well as targets set by other states and countries, and in legislation introduced in the US Congress. The 2020 targeted level of emissions is approximately 411,600 metric tons of carbon dioxide equivalent (MT CO₂e). As shown in figure 3, with business as usual and corresponding emission rates factored in, the likely reduction will have to be 227,200 MT CO₂e.

Step 4: Goals

Based on the 2007 community-wide baseline emissions inventory; the proposed 2020 emissions reduction targets; the Urbana City Council and Mayor Goals; and public input received on the

emissions inventory and forecast, the Urbana Sustainability Advisory Commission and City staff identified the following high priority goals and actions for the Climate Action Plan Phase 1:

GOAL 1: Reduce emissions from building energy consumption.

- Action 1: Reduce emissions from commercial sector building electricity consumption.
- Action 2: Reduce emissions from residential sector building electricity consumption.
- Action 3: Reduce emissions from residential sector building natural gas consumption.

GOAL 2: Reduce emissions from gasoline consumption.

- Action 1: Support sustainable transportation through infrastructure improvements.
- Action 2: Promote a culture of sustainable transportation.
- Action 3: Encourage participation in sustainable transportation programs.
- Action 4: Consider transportation sector emissions projections in land-use planning decisions.

GOAL 3: Formulate strategies to reduce emissions from rental and industrial sectors.

- Action 1: Form a task force to study special considerations for rental properties.
- Action 2: Form a task force to study special considerations for the industrial sector.

GOAL 4: Prepare for climate change impacts.

- Action 1: Form a task force to study special considerations for adapting to local climate change impacts.

GOAL 5: Pursue outreach and coordination.

- Action 1: Coordinate city plans and policies with climate action goals.
- Action 2: Encourage energy efficient behavior and individual actions.
- Action 3: Encourage energy efficiency in new developments.
- Action 4: Encourage participation in existing sustainability programs.
- Action 5: Monitor progress towards climate action goals.

Step 5: Implementation Strategies

The Climate Action Plan further identifies an implementation program for most effectively achieving goals. Proposed implementation actions fall into one the following categories:

- Actions supporting energy efficiency
- Actions promoting the use of renewable energy sources
- Seeking additional funding for programs
- Providing information, outreach, coordination and monitoring
- Implementing sustainability goals of existing plans

The full Implementation Program identifies the responsible agency or organization, the priority, and the type of strategy. The Implementation Program begins on page 64 of the draft Plan.

Recommendation

The Plan Commission is requested to review and provide comments on the draft Urbana Climate Action Plan before submission to the Urbana City Council.

Attachments:

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If you would prefer a paper copy, please contact Aditi Kambuj at (217) 384-2440 or adkambuj@urbanaininois.us.

cc: Sustainability Advisory Commission members