



Climate Protection Plan
City of Kansas City, Missouri
July, 2008



Mayor

Mark Funkhouser

City Council

Deb Hermann, First District at Large

Bill Skaggs, First District

Ed Ford, Second District at Large

Russ Johnson, Second District

Melba J. Curls, Third District at Large

Sharon Sanders Brooks, Third District

Beth Gottstein, Fourth District at Large

Jan Marcason, Fourth District

Cindy Circo, Fifth District at Large

Terry M. Riley, Fifth District

Cathy Jolly, Sixth District at Large

John A. Sharp, Sixth District

City Manager

Wayne A. Cauthen



From the Steering Committee

We believe that greenhouse gas emissions can be reduced at the same time as the economy and quality of life improve for businesses and citizens in Kansas City.

To: Mayor Mark Funkhouser and Members of City Council

On August 17, 2006, the previous City Council adopted a resolution supporting a climate protection planning process for Kansas City. Since September 2006, the City's Climate Protection Plan Steering Committee has worked with City staff and approximately 100 volunteers representing a broad range of community stakeholders to develop a Climate Protection Plan for Kansas City, Missouri.

While climate change is an enormous challenge and a defining issue for our time, it is also an opportunity for our community. We believe the ways we respond to the challenge of reducing greenhouse gas emissions that contribute to climate disruption will result in substantial benefits to Kansas City: energy and financial savings, better quality housing for all our residents, more transportation choices, new business and employment opportunities, healthier citizens, and a more close-knit community. We encourage you and the entire Kansas City community to seize the opportunity to reduce our contributions to climate change in ways that will significantly improve the quality of life in our city.

In April, 2007, the previous City Council approved four recommendations included in the "Progress Report on Climate Protection and Phase 1 Recommendations":

- Adopt a policy that makes climate protection and greenhouse gas reductions a key factor in all decisions and actions by the City.
- Adopt a goal of reducing greenhouse gas emissions from City government operations by 30% below year 2000 levels by the year 2020 and support the development of a realistic, but ambitious, goal by the end of 2007 for community-wide greenhouse gas reductions, drawing upon additional expertise and community discussion.
- Adopt the Phase 1 greenhouse gas reduction measures in the Progress Report, while providing the City Administration with flexibility to implement them in a timely and workable manner.
- Support the continuation of the climate protection planning process with the existing Steering Committee throughout 2007.

We are pleased to furnish this Climate Protection Plan to you, including a recommended goal for community-wide greenhouse gas reductions and actions to achieve this goal. The Summary, "It's Time to Act", reflects our view that there is no time to waste in moving ahead with these actions which can simultaneously improve Kansas City's economy and community. These recommendations are a consensus of the Steering Committee and Work Group efforts representing the Phase 1 recommendations plus the following recommendations developed in Phase 2 of the City's climate protection planning process (including input from the Greater Kansas City Chamber of Commerce Energy Policy Task Force) that we strongly recommend for your approval:

- Adopt a goal of reducing community-wide greenhouse gas emissions in Kansas City, Missouri by 30% below year 2000 levels by year 2020;
- Adopt an aspirational goal of reducing community-wide greenhouse gas emissions by 80% below year 2000 levels by 2050 and focus our long-term outlook on being a climate-neutral Kansas City;



- Adopt the Phase 2 greenhouse gas emission reduction measures in the Climate Protection Plan as a statement of intent and strategy, while providing the City administration with flexibility to implement them in a timely and workable manner;
- Support the continuation of the Climate Protection Steering Committee as an ongoing oversight entity for implementation of Kansas City's Climate Protection Plan.

Kansas City and hundreds of other communities across the nation and the world are embarking on actions to combat climate disruption. Technology and regulatory initiatives to address climate change are evolving rapidly and it will be important to re-evaluate and fine tune our actions – and even our goals -- in the future.

The Kansas City Climate Protection Plan contains several major areas of emphasis that are critical to achieving its goals:






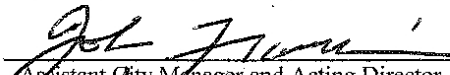

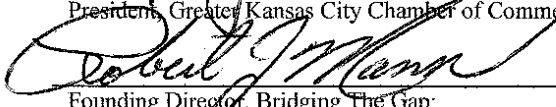
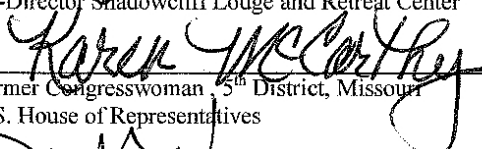
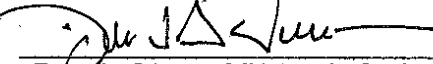
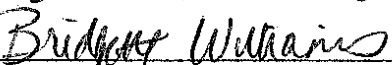
- We must dramatically reduce our vehicle emissions by a combination of increased use of convenient public transportation, ride sharing, telecommuting, living and working in closer proximity, choosing the fuels we use to power our vehicles, and reducing the miles we choose to drive.
- As individual residents, businesses, and a municipal government we must conserve the electrical energy we are consuming and seek new economically feasible renewable energy sources.
- We must better understand the impact of our buildings (including residential, commercial, institutional, industrial and governmental) on greenhouse gas emissions and create policies and action plans that comprehensively reduce the impact of our current and future building stock on greenhouse gas emissions.

Empowering citizens to act is crucial. The goals we have set are not achievable without a broad based community support which will require public education and action at a level we have never before attempted as a community. This means a commitment to educate at all socio-economic levels, age levels and ethnic groups.

We came to the planning process with a wide range of interests and perspectives and we have appreciated the opportunity to serve on the City's Climate Protection Plan Steering Committee. We believe this plan is a critically important policy document. We look forward to working with you and the entire community in an ongoing journey to ensure a positive legacy for our children and the future generations who will follow us in Kansas City.

As individual members of the Climate Protection Plan Steering Committee, we strongly recommend your adoption of this plan and we pledge to actively engage our respective companies and organizations in helping to support its implementation.



| | |
|-----------------------|---|
| Joanne Collins, Chair |  Former Kansas City Councilmember; Past Chair of Mid-America Regional Council's Air Quality Forum; Former Member of Missouri Air Conservation Commission |
| Bob Berkebile |  Founding Principal, BNIM Architects; Co-Chair, Kansas City, Missouri Environmental Management Commission |
| Scott Burnett |  Legislator, 1 st District, Jackson County Legislature |
| Bill Downey |  President and CEO, Kansas City Power & Light Co. |
| Dee Evans |  President, Beacon Hill Neighborhood Association |
| John Franklin |  Assistant City Manager and Acting Director, KCMO Water Services Department |
| Peter Levi |  President, Greater Kansas City Chamber of Commerce |
| Robert J. Mann |  Founding Director, Bridging The Gap; Co-Director Shadowcliff Lodge and Retreat Center |
| Karen McCarthy |  Former Congresswoman, 5 th District, Missouri U.S. House of Representatives |
| David Warm |  Executive Director, Mid-America Regional Council |
| Bridgette Williams |  Executive Director, Heart of America Labor Council, Greater Kansas City AFL-CIO |



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City of Kansas City, Missouri Climate Protection Plan

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City of Kansas City, Missouri Climate Protection Plan

Summary: “It’s Time to Act”

Now is the time to act. The debate is over. The overwhelming scientific consensus is that human-induced climate change is among the most pressing environmental problems facing this generation and those to come. Kansas City is doing its part by adopting its climate protection plan, placing it among key cities nationwide taking a lead in sustainable development.

GREENHOUSE GAS EMISSIONS IN KANSAS CITY

According to a report issued by UN-Habitat, cities are home to over 50% of the world’s population, consume 75% of the world’s energy, and emit 80% of the global carbon dioxide (CO₂). Their conclusion is “If you want to tackle climate change, tackle the cities.” Kansas City, Missouri community leaders have determined to take action and reverse projected trends for increased greenhouse gas emissions, primarily carbon dioxide, through concerted short, medium, and long-term strategies using the Climate Protection Plan as a guide.

Taken as a whole, greenhouse gas emissions in Kansas City, Missouri were 9.6 million metric tons of carbon dioxide-equivalents (eCO₂) in the year 2000, which grew to 9.9 million metric tons in the year 2005 (a metric ton is 2,200 pounds). Municipal government operations alone released almost 320,000 metric tons of eCO₂ in the year 2000, which were reduced to 298,000 metric tons in the year 2005 as a result of actions taken to save money and improve efficiency in municipal operations. Unless greenhouse gas reduction measures are implemented, community-wide greenhouse gas (GHG) emissions are projected to increase 19% above year 2000 levels to 11.3 million metric tons by 2020. (See “GHG Emissions Inventory and Forecast”)

CLIMATE PROTECTION PLANNING PROCESS

On August 17, 2006, the Mayor and City Council of Kansas City, Missouri committed to take action by passing a resolution to join more than 300 U.S. local governments and 770 local governments worldwide in reducing emissions of GHGs. City Council charged the City Manager and Chief Environmental Officer to work with the community in developing the Climate Protection Plan.

In October 2006, former Mayor Barnes appointed an 11-member Steering Committee to oversee the planning process. Under the direction of the Steering Committee, the City Manager, and the City’s Chief Environmental Officer, an intensive planning process was begun. In Phase 1, four Work Groups met over a period of four months preparing recommendations for the Steering Committee’s consideration to be forwarded to the Mayor and City Council for approval and adoption.

On April 12, 2007, Phase 1 recommendations were adopted by City Council and Phase 2 began. In Phase 2, two Work Groups met over a period of eight months preparing recommendations for the Steering Committee. The Climate Protection Plan is the combination of Phase 1 and Phase 2 recommendations.

GREENHOUSE GAS EMISSIONS REDUCTION GOAL. Based on the Climate Protection Progress Report and Phase 1 Recommendations, City Council adopted a goal for city government to reduce GHG emissions by 30% below year 2000 levels by 2020. Based on Phase 2 work group efforts, the Climate Protection Plan Steering Committee recommends establishing an ambitious yet achievable community-wide goal of reducing emissions 30% below year 2000 emission levels by 2020. The Steering Committee also recommends adopting an aspirational goal that the City strive to achieve a community-wide GHG



emission reduction goal of 80% below year 2000 levels by 2050 and focus our long term outlook on becoming a climate-neutral Kansas City.

RECOMMENDATIONS FOR GREENHOUSE GAS REDUCTIONS

Many actions are needed to achieve the goals. No one or two GHG reduction strategies and actions will be sufficient to achieve the needed results. Actions which could have an immediate impact and whose implementation could begin in a year or two were adopted as Phase 1 actions. Phase 2 recommendations enhance and extend Phase 1 recommendations and address measures to be implemented by the larger community.

The full set of recommendations and estimated GHG reductions that are achievable are listed in the section titled "Recommendations for Greenhouse Gas Reductions." A more detailed description of Phase 1 and Phase 2 reduction measures are provided in Appendices A and B. The implementation status of Phase 1 GHG reduction measures is included as Appendix C.

One of the key actions identified by all Work Groups and the Steering Committee is civic engagement - a broad, far-reaching, and multi-faceted outreach and education program. Such an effort needs to be a partnership of all segments of the Kansas City community, and should build on the existing work of organizations including the City government, the Mid-America Regional Council, businesses, and nonprofit organizations. Education is necessary to help people understand the problem, appreciate the urgency of taking action, and identify what we can do to:

- dramatically reduce our vehicle emissions by a combination of increased use of convenient public transportation, ride sharing, telecommuting, living and working in closer proximity, choosing the fuels we use to power our vehicles, and reducing the miles we choose to drive;
- conserve the electrical energy we are consuming and seek new, economically feasible, renewable energy sources;
- better understand the impact of our buildings, both residential, commercial, industrial, institutional and governmental on GHG emissions and create policies and action plans that comprehensively reduce the impact of our current and future building stock on GHG emissions.

Empowering citizens to act is crucial. The goals we have set are not achievable without a broad based community support which will require public education and action at a level we have never before attempted as a community. This means a commitment to educate at all socio-economic levels, age levels and ethnic groups.

The key actions to reduce GHGs have been developed by the Work Groups in several areas of focus. It is important to note that many of these actions, in addition to building on current programs, provide multiple benefits beyond GHG reduction. Many actions can save money and improve our quality of life.

COMMUNITY INVOLVEMENT

The climate protection planning process and this plan have resulted from the efforts of many individuals including representatives of the Climate Protection Steering Committee, Climate Protection Plan Work Groups, Environmental Management Commission, Greater Kansas City Chamber of Commerce Energy Policy Task Force Climate Protection Sub-Group, and other interested individuals and groups. Without the contributions of their time, expertise and hard work, this plan would not have been possible.

Approximately 4,000 hours have been donated by the Climate Protection Work Group volunteers alone.

BUILDING ON EXISTING ACTIVITIES

To fully understand the impact of climate protection in Kansas City and our ability to achieve these goals, it is important to know what else is occurring outside City Hall to strategically launch Kansas City into a sustainable future. The KCMO climate protection planning process has been complemented by many new regional initiatives to support sustainability and climate protection. In the "Building on Existing Activities" section, the broad range of sustainability initiatives are highlighted that began prior to the climate



protection planning process, all of which strengthen the region's ability to nurture and grow into a sustainable region.

Here though, it is essential to mention the City of Kansas City's commitment and leadership in sustainable development. The white paper titled "Going Green in Kansas City: Where We Are & Where We're Going" is provided in full in Appendix F. A sampling of green policy initiatives laying the groundwork for this Climate Protection Plan include:

- "Green Solutions Policy" adopted by the City Council, establishing the policy of the City to integrate green solutions in our City planning and development processes (Resolution #070830).
- Green Solutions Administrative Regulation adopted by the City Manager directing City departments to incorporate green solutions into City policies, projects, and programs (A.R. 5-5).
- City Council decision to require Energy Star standards for all new construction and substantial rehabilitation to be undertaken using City funds (Ordinance #080543).
- City Council decision to require, for inclusion in fact sheets for ordinances and resolutions, an answer to the question "How will this contribute to a sustainable Kansas City?" (Ordinance #080246).

Our community will use an integrative approach to achieving our GHG reduction goals. We will employ strategies such as waste reduction, energy efficiency, enhancements of public transit and bicycle/pedestrian options, green buildings, urban forestry, development incentives and codes to encourage infill and rehabilitation using environmentally sound building practices.

Now is the time to act ... Kansas City has been building the foundation for a solid green future with policies and strategic direction. This Climate Protection Plan lays out a strategic plan based on the direction provided by the Climate Protection Steering Committee, Climate Protection Work Groups, the Environmental Management Commission, the City Manager, and the Mayor and City Council.





City of Kansas City, Missouri Progress Report on Climate Protection

Greenhouse Gas Emissions Reduction Goals

A reduction goal provides a tangible target for Kansas City's emissions reduction efforts and a means to evaluate progress. The emissions reduction goals represent a percentage by which Kansas City aims to decrease emissions below the year 2000 baseline by the target year 2020 in City government and community-wide.

The Steering Committee carefully considered what goals to recommend. The goals take into account a variety of activities already underway which have implications for reducing greenhouse gas emissions. Many factors were considered when selecting Kansas City's reduction target. The Steering Committee aimed to choose a goal that is both aggressive and achievable, given local circumstances.

Local factors considered in selecting the target reduction percentage for Kansas City included estimation of the effects of implemented and planned programs and policies, an approximate assessment of future opportunities to reduce emissions, targets adopted by peer communities, and the recognition that significant reductions need to be achieved in the next few years.

In Phase 1 of the planning process, the Steering Committee recommended that the City Council adopt a reduction goal of 30% below year 2000 levels by the year 2020. The ambitious goal for city government was a reflection that:

- (a) The government should lead the way by example.
- (b) The Mayor and City Council have a high degree of control to achieve reductions in municipal emissions.
- (c) The City has, since 2000, already begun to reduce GHG gas emissions with actions which have had a significant impact.

On April 12, 2007, the City Council approved the greenhouse gas reduction goal for City government operations and 32 Phase 1 GHG gas emission reduction measures to achieve that goal. Implementation of Phase 1 GHG reduction measures began while work continued on development of the Climate Protection Plan.

The Steering Committee recommends the Mayor and City Council adopt a goal of 30% below year 2000 levels by the year 2020 for reduction of community-wide GHG emissions. The goal for the broad community is a determination that reasonable measures, implemented in a range of areas across the community, will result in an ambitious yet achievable goal. But this is an interim goal relative to perceived long term global needs. It is recommended the City strive to achieve an aspirational, community-wide GHG emission reduction goal of 80% by 2050 and focus our long term outlook on becoming a climate-neutral Kansas City.

SETTING EMISSION REDUCTION GOALS

The Climate Protection Plan establishes goals for the reduction of GHG emissions from Kansas City municipal operations and from the wider community. The community-wide emission reduction goals include the entire public and private community as well as the subset of City government. Tables 1 and 2 detail the historical, sector-specific GHG emission levels and the emission reduction goals projected to 2020. Figures 1 and 2 show the historical pattern and the projections to 2020 if the City's GHG reduction goals are achieved.



These goals are:

Short Term

By 2010, the City government should reduce its emissions by 10% from 2000 emissions level for a total annual reduction of 31,980 metric tons carbon dioxide-equivalents (eCO₂).

By 2010, the Community should reduce emissions to its 2000 emissions level. Note: This represents a decrease from 2005 emissions of 3.81% for a total annual reduction of 379,434 metric tons eCO₂.

Medium Term

By 2015, the City government should reduce its emissions by 20% from 2000 emissions level for a total annual reduction of 63,960 metric tons of eCO₂.

By 2015, the Community should reduce emissions by 15% from 2000 emissions levels for a total annual reduction of 1,435,465 metric tons of eCO₂.

Long Term

By 2020, the City government should reduce its emissions by 30% from 2000 emissions level for a total annual reduction of 95,940 metric tons eCO₂.

By 2020, the Community should reduce emissions by 30% from 2000 emissions level for a total annual reduction of 2,870,929 metric tons eCO₂.

Table 1

City Government Annual Greenhouse Gas Emissions
Actual and Goals

| | Equivalent Carbon Dioxide (eCO ₂) – Municipal Operations Metric Tons | | | | |
|------------------|---|---------|---------|---------|---------|
| | Actual | | Goals | | |
| | 2000 | 2005 | 2010 | 2015 | 2020 |
| Buildings | 109,908 | 103,661 | | | |
| Vehicle Fleet | 29,272 | 30,442 | | | |
| Employee Commute | 19,739 | 18,597 | | | |
| Streetlights | 49,244 | 50,794 | | | |
| Water/Sewage | 110,385 | 93,285 | | | |
| Waste | 1,247 | 1,156 | | | |
| Total | 319,795 | 297,905 | 287,816 | 255,836 | 223,857 |
| Change | NA | - 6.8% | - 10% | - 20% | - 30% |

Figure 1

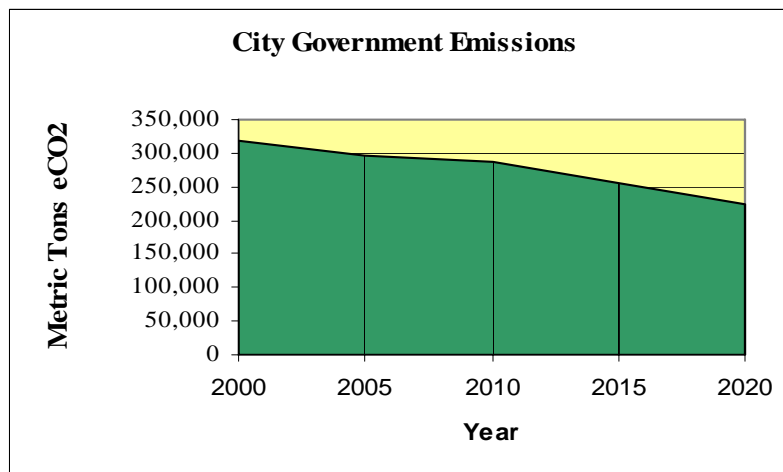
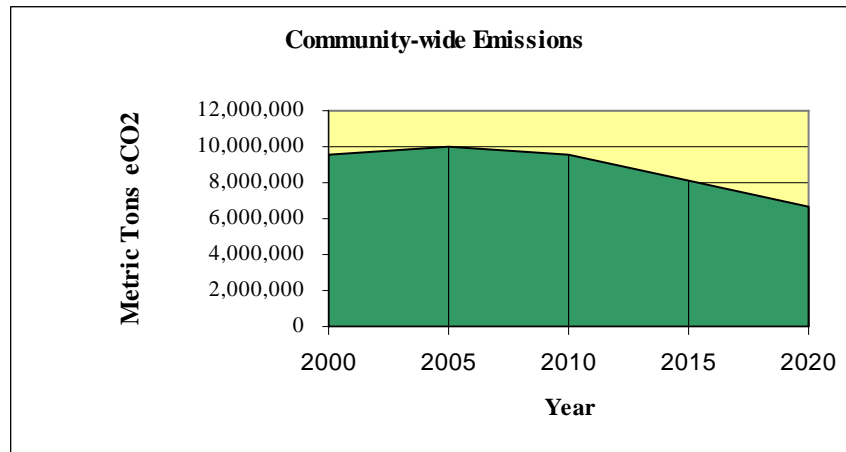


Table 2

Community-wide Annual Greenhouse Gas Emissions*
Actual and Goals

| | Equivalent Carbon Dioxide (eCO₂) – Community-Wide* | | | | |
|----------------|--|------------------|------------------|------------------|------------------|
| | Metric Tons | | | | |
| | Actual | | Goals | | |
| | 2000 | 2005 | 2010 | 2015 | 2020 |
| Residential | 1,677,943 | 1,980,491 | | | |
| Commercial | 2,670,955 | 2,978,445 | | | |
| Industrial | 1,573,559 | 1,105,273 | | | |
| Transportation | 3,510,795 | 3,651,399 | | | |
| Waste | 136,513 | 233,591 | | | |
| Total | 9,569,764 | 9,949,198 | 9,569,764 | 8,134,299 | 6,698,835 |
| Change | NA | + 3.96% | - 0% | - 15% | - 30% |

- Includes GHG Emissions from City Government Operations

Figure 2

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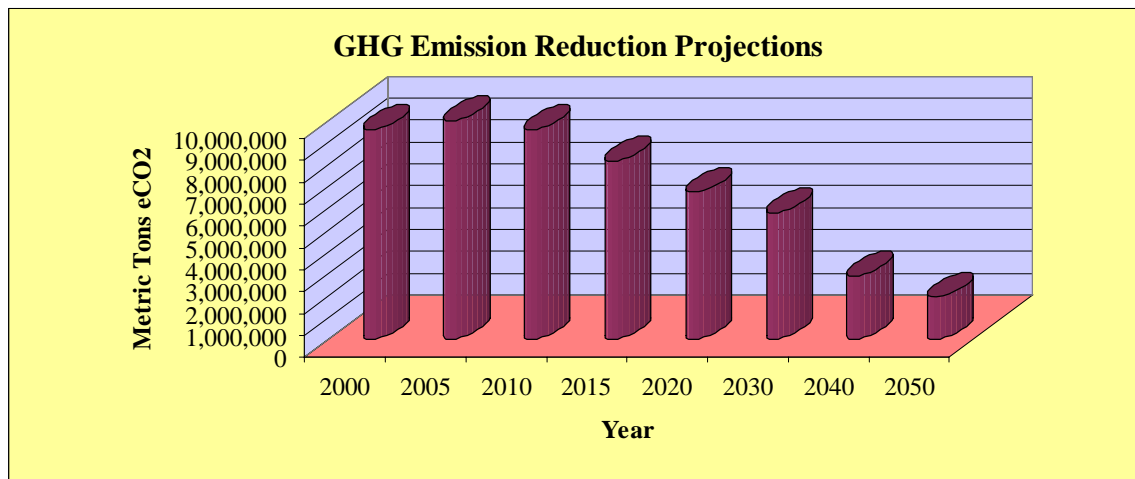
ASPIRATIONAL GOAL

The greenhouse gas reduction goals detailed in this Plan are, with a significant amount of innovation and hard work, considered achievable by 2020. But this is an interim goal relative to perceived long term global needs. A global carbon emissions reduction of 80% by 2050 is called for by the United Nations Intergovernmental Panel on Climate Change.

It is recommended that the City strive to achieve a community-wide GHG emission reduction goal of 80% by 2050 and focus our long term outlook on becoming a climate-neutral Kansas City. See Figure 3 below.



Figure 3



PERIODIC EVALUATION OF GOAL

The City government and the broader Kansas City community will periodically re-evaluate greenhouse gas reduction goals and action measures. Evaluations will need to be done from time to time – for example, every five years – to determine how much progress is being made and what activities are achieving results. Evaluation of the goals will also be advisable because knowledge about climate disruption and new technology available to address the problem are changing rapidly. In addition, changes in state and/or federal regulatory requirements regarding greenhouse gas emissions are anticipated. Finally, evaluation will be useful based on the experience of other communities that are preparing and implementing climate protection plans. Cities will be sharing their ideas and progress and their experience may alter the goals that today are seen to be desirable and achievable. Just as the Work Groups used current Natural Capitalism Solutions “best bets” as one tool to develop Phase 1 recommendations for greenhouse gas emissions reductions, we will monitor the actions of others in the future.





City of Kansas City, Missouri Climate Protection Plan

Recommendations for Greenhouse Gas Reductions

Based on recommendations from the Climate Protection Plan Work Groups, the Steering Committee identified measures to reduce greenhouse gas emissions from City government operations and activities community-wide. The Greater Kansas City Chamber of Commerce Energy Task Force used Phase 1 recommendations to help develop an estimate of achievable, community-wide GHG emission reductions. All of these greenhouse gas reduction measures are consensus recommendations from the Work Groups and the Steering Committee.

Greenhouse gas emission reductions can be estimated for some of the measures. Other measures are anticipated to contribute to greenhouse gas reductions, but cannot be quantitatively estimated at this time.

Recommended actions, programs, and policies encourage City government and the private sector to work together. Implementation of the recommendations anticipates a broad collaboration with the business sector, non-profit organizations, neighborhoods, churches, schools, and individual citizens and a willingness and commitment to address identified community-wide issues over the next few years. These recommendations are estimated to help the city government achieve or exceed a 30% reduction in greenhouse gas emissions from year 2000 levels by 2020. These recommendations also are estimated to help the broader community achieve or exceed a 30% reduction in greenhouse gas emissions from year 2000 levels by 2020.

SUMMARY OF ALL WORK GROUP RECOMMENDATIONS

Phase 1 and Phase 2 Work Group recommendations are detailed on the following pages.

| | City Government Annual GHG Emissions Reduction (metric tons) | Community-wide Annual GHG Emissions Reduction * (metric tons) |
|--|---|--|
| Estimated Annual Reductions Phase 1 | 83,235 | 1,926,059 |
| Estimated Annual Reductions Phase 2 | 29,800 | 844,439 |
| Potential Annual GHG Reductions | 113,035 | 2,770,498 |
| Baseline Emissions data for 2000 | 319,795 | 9,569,764 |
| Percent Reduction Potential | 35.3% | 28.9% |

* City Government Annual Reductions are included in Community-wide Annual Reductions
All projected emissions reductions are estimates to be reviewed periodically

Recommendations for Greenhouse Gas Reductions - Phase 1

| Work Group | City Government Annual GHG Emissions Reduction (metric tons) | Community-wide Annual GHG Emissions Reduction (metric tons) |
|-----------------------------------|---|--|
| Energy | 40,350 | 1,577,702 |
| Transportation | 2,285 | 164,832 |
| Carbon Offsets / Waste Management | 40,600 | 183,525 |
| Policy and Outreach | Unknown | Unknown |
| TOTAL ANNUAL REDUCTIONS | 83,235 | 1,926,059 |



| Energy Work Group | Projected Annual GHG Emissions Reduced (metric tons) | |
|---|--|------------------|
| | City | Community |
| Recommendations | | |
| 1. Undertake a feasibility study for opportunities for onsite generation of renewable energy for municipal buildings and facilities | 0 | 0 |
| 2. Adopt GHG goals at least as aggressive as the Mayor's climate protection protocol based on baseline data from 2000 | not applicable | not applicable |
| 3. Reduce municipal energy use by 10% | 26,900 | 26,900 |
| 4. Study the feasibility of joining a GHG exchange such as the Chicago Climate Exchange (CCX) | unknown | unknown |
| 5. Explore improvement of energy efficiency ordinances, codes and regulations requiring up to date energy efficiency standards for any development project funded in whole or in part using public funds. If City funding is involved, require targeting the achievement of Energy Star rating for commercial and residential development including materials, equipment, such as energy efficient water heaters, and supplies. | unknown | 58,050 |
| 6. Expand the conventional Home Weatherization Program to allow for a broader client base allowing services to be provided, under certain conditions, to property owners not eligible pursuant to federal program guidelines and providing for financing options including grants and loans. | not applicable | 139,551 |
| 7. Purchase 5% (five percent) of the total electricity demand of the City to operate municipal buildings and facilities from renewable power sources. | 13,450 | 13,450 |
| 8. Undertake an aggressive education and public relations campaign in partnership with GKC Chamber of Commerce, KCPL, MGE, foundations, non-profits, neighborhood organizations, home associations, Home Builders Association, Kansas City Green Builders Council, Kansas City AIA and others supporting and promoting green choices. | not applicable | 524,666 |
| 9. Establish an Energy Office and expand the use of performance contracting (one element in achieving 10% reduction in municipal energy use – Recommendation #3) | unknown | unknown |
| 10. Through partnerships and collaboratives, establish mechanisms to assist consumers in reducing loan rates for Energy Star rated home and businesses. | not applicable | unknown |
| 11. Collaborate with the GKC Chamber of Commerce and KCPL to continue the Million Lights Campaign and to include, in an appropriate fashion, a means for transition to upgraded, energy efficient business lighting. | not applicable | 40,400 |
| 12. Collaborate with the GKC Chamber of Commerce and others to encourage businesses to reduce GHGs, beginning with assessments to determine the easiest items to implement and, ultimately, more extensive energy audit for their own benchmarks (baseline inventory) and GHG reduction plan. | not applicable | 774,685 |
| 13. Join current efforts to establish state policy supportive of GHG emission reduction strategies. | unknown | Unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Energy) | 40,350 | 1,577,702 |



| Transportation Work Group | Projected Annual GHG Emissions Reduced (metric tons) | |
|---|--|--|
| Recommendations | City | Community |
| 1. Expand and Further Develop Alternative Transportation Programs including, but not limited to: transit ridership, carpooling, telecommuting, and innovative work scheduling | 1,785 | 66,859 |
| 2. Develop a Comprehensive Parking Plan | unknown | Unknown |
| 3. Develop a Comprehensive Traffic Signal/Flow Coordination Plan | not applicable | 84,250 |
| 4. Expand the use of alternative fuels | 500 | 11,796 |
| 5. Commit to following the requirements for bicycle/pedestrian access in new and altered infrastructure. Also see Phase 2 Transportation Recommendations Nos. 6, 7, and 8 | not applicable | 1,477 |
| 6. Develop a plan to implement light rail as part of a healthy overall public transit system | unknown | unknown (calculate when plan & estimated ridership are determined) |
| 7. Initiate a well planned public education and marketing program to broadly present the need for Transportation Alternatives | not applicable | unknown |
| 8. Develop a program to reduce the use of polluting lawnmowers, including municipal, general and commercial use. | not applicable | 450 |
| 9. Retain and attract businesses that support GHG reduction and best environmental practices | not applicable | unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Transportation) | 2,285 | 164,832 |

| Carbon Offsets and Waste Management Work Group | Projected Annual GHG Emissions Reduced (metric tons) | |
|--|--|----------------|
| Recommendations | City | Community |
| 1. Develop a Comprehensive Solid Waste Management Plan for Kansas City | unknown | unknown |
| 2. Increase and Expand Curbside Recycling Program | not applicable | 66,000 |
| 3. Expand City Government Recycling and Green Purchasing | 4,500 | 4,500 |
| 4. Make Construction & Demolition Recycling Mandatory for City-supported Projects | not applicable | 41,725 |
| 5. Expand Kansas City's existing urban forestry program and develop matching participation by the private sector | 33,800 | 67,600 |
| 6. Expand Native Landscaping on City Properties | 700 | 700 |
| 7. Promote Development of Demonstration Green Roofs | 1,600 | 3,000 |
| 8. Promote Residential Neighborhood Food Production | unknown | unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Carbon Offsets & Waste Management) | 40,600 | 183,525 |



| Policy and Outreach Work Group | Projected Annual GHG Emissions Reduced (metric tons) | |
|---|--|-----------|
| Recommendations | City | Community |
| 1. Develop a comprehensive, multi-faceted communications and public engagement plan to support the broad climate protection effort -- to inform, engage and empower people, targeting business, faith communities, schools and the general public. | unknown | unknown |
| 2. Maximize greenhouse gas reductions by municipal government through policy changes promoting construction of green buildings, development of green infrastructure, revision of the Development Code and Building Code, establishment of greenhouse gas reduction in the city's policy-making framework, and regionalization of climate change protection. | unknown | unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Policy and Outreach) | unknown | unknown |

SUMMARY OF WORK GROUP RECOMMENDATIONS – PHASE 2

(See Page 13 - Periodic Evaluation, and Page 19 - Future Evaluations and Refinement)

| Work Group | City Government Annual GHG Emissions Reduction (metric tons) | Community-wide Annual GHG Emissions Reduction* (metric tons) |
|---------------------------------------|--|--|
| Buildings & Infrastructure | | |
| • Green Buildings | Unknown | Unknown |
| • Land Use Planning & Development | Unknown | 7,263 |
| • No Waste | 1,000 | 109,210 |
| • Renewable Energy | 21,900 | 21,900 |
| Transportation | | |
| • Business | 3,900 | 525,800 |
| • Citizens | 3,000 | 180,266 |
| • Transit | Unknown | Unknown |
| TOTAL ANNUAL REDUCTIONS* | 29,800 | 844,439 |

* City Government Annual GHG Reductions are included in Community-wide Annual GHG Reductions; All projected emissions reductions are estimates to be reviewed periodically



Recommendations for Greenhouse Gas Reductions - Phase 2

| Buildings & Infrastructure - Green Buildings | Projected Annual GHG Emissions Reduced (metric tons) | |
|--|--|----------------|
| Recommendations | City | Community |
| 1. Develop and implement a community-wide, public and professional education initiative re energy efficiency and renewable energy options | Unknown | Unknown |
| 2. Provide incentives to residential and commercial building owners to increase sustainability of the buildings in the city and to reduce community-wide GHG emissions | Unknown | Unknown |
| 3. Develop and implement a "Carbon Release Inventory" for buildings detailing carbon footprints with an annual reporting protocol | Not applicable | Not applicable |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Green Buildings) | Unknown | Unknown |

| Buildings & Infrastructure - Land Use Planning & Development | Projected Annual GHG Emissions Reduced (metric tons) | |
|--|--|--------------|
| Recommendations | City | Community |
| 1. Promote and incentivize development patterns that support alternative modes of transportation and avoid sprawl through use of codes, permits & tax incentives | Not applicable | Unknown |
| 2. Preserve and Enhance Green Space and Trees to increase the tree canopy from 32% to a goal of 40% for the entire City including a tree preservation ordinance and a "trees on vacant lots" program | Unknown | 7,263 |
| 3. Promote metropolitan food production | Unknown | Unknown |
| 4. Lobby for changes in Federal and State policies that reduce GHG emissions, such as a cap and trade program for GHG emissions or a carbon tax | Unknown | Unknown |
| 5. Assess, in advance, the climate impact of proposed development projects as a criterion in evaluating requests for City support | Unknown | Unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Land Use Planning & Development) | Unknown | 7,263 |

| Buildings & Infrastructure - No Waste | Projected Annual GHG Emissions Reduced (metric tons) | |
|--|--|----------------|
| Recommendations | City | Community |
| 1. Reorganize the Solid Waste Management Division of Public Works into a Resource Recovery Management Department | Unknown | Unknown |
| 2. Develop a Regional Resource Recovery and Management Facility and Environmental Campus | Unknown | Unknown |
| 3. Achieve an 80% diversion rate of organic material | 1,000 | 109,210 |
| 4. Manage and reduce construction and demolition waste to achieve an 80% diversion rate | Unknown | Unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (No Waste) | 1,000 | 109,210 |



| Buildings & Infrastructure - Renewable Energy | Projected Annual GHG Emissions Reduced (metric tons) | |
|--|--|---------------|
| | City | Community |
| Recommendations | | |
| 1. Develop funding sources for sustainable energy efficiency and renewable energy projects | Unknown | Unknown |
| 2. Promote Local, State and Federal Policies that Encourage Energy Efficiency and Renewable Energy | Unknown | Unknown |
| 3. Promote community-wide energy efficiency and renewable energy including purchase of electricity from renewable sources (20% by 2015; 50% by 2050) | 21,900 | 21,900 |
| TOTAL ANNUAL EMISSIONS REDUCTIONS (Renewable Energy) | 21,900 | 21,900 |

| Transportation – Recommendations for GHG reduction measures by the City, Businesses, and Citizens | Projected Annual GHG Emissions Reduced (metric tons) | |
|---|--|----------------|
| | City | Community |
| Recommendations | | |
| 1 & 2. Reduce GHG emissions - by reducing net vehicle miles traveled, by fuel efficiency choices, establishing idle reduction policies & programs, etc – 20% by 2020 and 30% by 2030 relative to 2000 | 3,900 | 525,800 |
| 3. Create a new media campaign award – The “Green” Addy | Unknown | Unknown |
| 4. “Complete Streets” policy that all new construction and repair is considerate of a range of complementary uses, including transit, pedestrians & bicyclists | 1,000 | 78,228 |
| 5. 1% of all transportation infrastructure expenditures for bicycling; increase bicycling from 0.4% of all trips to 5.4% of all trips | 1,000 | 49,836 |
| 6. 2% of all transportation infrastructure expenditures for walking; increase walking from 3.9% of all trips to 8.9% of all trips | 1,000 | 52,202 |
| 7. Reduce Transportation-related GHG emissions at Area Schools while Teaching Sustainability | Not applicable | Unknown |
| 8. Create a Seamless Regional Transit System Integrating Green Solutions and Sustainability | Unknown | Unknown |
| TOTAL ANNUAL EMISSIONS REDUCTIONS | 6,900 | 706,066 |

FUTURE EVALUATION AND REFINEMENT

Many of the recommended actions, for which specific estimates of GHG reductions can not currently be quantified (such as a broad-based education & outreach effort, a feasibility study for onsite renewable energy generation at City facilities, adoption of stronger energy efficiency standards in the City’s Building Code, and implementation of a light rail system), provide a foundation for additional substantial GHG reductions in the future.

Meeting Kansas City’s reduction target will require both persistence and adaptability. Climate protection will be an ongoing process, and progress must periodically be evaluated. Beginning in 2010, and every five years thereafter, Kansas City will assess its progress and evaluate the impact of the actions recommended here. New measures may be identified based on local experience, the experience of other jurisdictions, new technologies, actions by other governments, and changing circumstances. Climate protection is, and will continue to be, a work in progress.





City of Kansas City, Missouri Climate Protection Plan

Community Involvement

The climate protection planning process and this plan have been the result of the extensive efforts of many individuals. Without the contributions of their time, effort, and expertise, this plan would not have been possible. Approximately 4,000 hours have been donated by the Climate Protection Work Group volunteers alone.

STEERING COMMITTEE

Chair

Joanne Collins – Former Kansas City Councilmember, Past Chair of Mid-America Regional Council's Air Quality Forum, Former Member of Missouri Air Conservation Commission

Members

J.C. Alonzo – Co-Chair, Kansas City Environmental Management Commission (Phase 1)

Bob Berkebile, AIA - Principal, BNIM Architects & Co-Chair of the Kansas City Environmental Management Commission

Scott Burnett – Legislator, 1st District Jackson County Legislature

Bill Downey – President and CEO, Kansas City Power & Light Co.

Dee Evans – President, Beacon Hill Neighborhood Association

Pete Levi – President, Greater Kansas City Chamber of Commerce

Karen McCarthy – Former U.S. Congress Representative (Phase 2)

Bob Mann – Founding Director, Bridging the Gap; Co-Director, Shadowcliff Lodge & Retreat Center

Frank Pogge – Director (retired), Kansas City Water Services Department (Phase 1)

John Franklin, Assistant City Manager and Acting Director, Kansas City Water Services Department (Phase 2)

David Warm – Executive Director, Mid-America Regional Council

Bridgette Williams – Executive Director, Heart of America Labor Council, Greater Kansas City AFL-CIO



CLIMATE PROTECTION WORK GROUPS

Carbon Offsets and Waste Management Work Group (Phase 1)

| | | | |
|----------------------|----------------|---------------|-------------------------|
| Jamie Frazier, Chair | Rich Enfield | Suzy Latare | Meagan Stach |
| John Almeida | Larry Falkin | Paul Ling | Joan Steurer |
| Laurie Brown | David Flora | Helene Miller | David Dods, Facilitator |
| Kate Corwin | Katie Grotegut | Michael Shaw | Diane Utz, City Staff |
| Lisa Danbury | Marty Kraft | Ann Simpson | |

Energy Work Group (Phase 1)

| | | | |
|--------------------------|-----------------|----------------|--------------------------------|
| Robert T. Jackson, Chair | Michelle Eis | Sue Nathan | John Ware |
| Brian Ball | Ryan Evans | Robert Painter | Lynn Hinkle, Facilitator |
| Craig Bernstein | Michael Fuhrman | Bruce Palmer | Terry Usina Boyer, Facilitator |
| Jenny Bloomfield | Charles Harris | Steve Pierson | Gerald Shechter, City Staff |
| Susan Brown | Bob Housh | Robert Rives | |
| Fred C. Buckley III | James Joerke | Rick Robson | |
| Vic Edwards | Mark Lawlor | Jim van Eman | |

Policy and Outreach Work Group (Phase 1)

| | | | |
|-------------------------|-------------------|----------------|---------------------------|
| Tom Jacobs, Chair | Laura Klover | Tom Neff | Kristi Wyatt |
| Carol Adams | John Fish Kurmann | Jim Sheppard | Janet Baker, Facilitator |
| Karmello Brooks-Coleman | Margaret May | Kelvin Simmons | Bruce Wiggins, City Staff |
| Scott Cahail | Chet McLaughlin | Deb Smith | |
| Teresa Edens | Dave Mecklenburg | Mark Trosen | |
| Dustin Jensen | Donovan Mouton | Terry Wiggins | |

Transportation Work Group (Phase 1)

| | | | |
|-----------------------|-------------------|----------------|----------------------------|
| Phelps Murdock, Chair | Patty Hilderbrand | John McClernon | Sam Swearngin |
| Amy Bhesania | Stephen Hopkins | Ron McLinden | Tom Swenson |
| Dave Brown | Mark Huffer | Tony Reinhart | Walter Winch |
| Marge Gasnick | Brent Hugh | Deb Ridgway | Kate Barsotti, Facilitator |
| Mell Henderson | Greg Lever | Lou Steele | Sherri Lewis, City Staff |

Buildings and Infrastructure Work Group (Phase 2)

Ryan Evans, Co-Chair
Susan Brown, Co-Chair
Lynn Hinkle, Facilitator
Gerald Shechter, City Staff

Green Buildings Subgroup (Phase 2)

| | | |
|-------------------------|-------------------|------------------|
| John Almeida, Co-Chair | Victor T. Edwards | Katherine Rivard |
| Terry Wiggins, Co-Chair | Dustin Jensen | Bruce Palmer |
| Craig Bernstein | Tom Neff | John Ware |
| Will Buchanan | Brad Nies | |



Renewable Energy Subgroup (Phase 2)

| | | |
|------------------------|--------------|----------------|
| Bill Roush, Co-Chair | Bob Ferguson | Robert Painter |
| Carol Sivils, Co-chair | Bob Housh | Otavio Silva |

“No Waste” Subgroup (Phase 2)

| | | |
|------------------------|--------------------|----------------|
| Jim van Eman, Co-Chair | Chilton McLaughlin | Vicki Standart |
| Lisa Danbury, Co-Chair | Rick Robson | Diane Swift |
| Katie Grotegut | James J Reed | |
| Marleen Leonce | David Sloan | |

Land Use and Development Subgroup (Phase 2)

| | | | |
|---------------------------|-----------------|-------------------|--------------|
| John Kurmann, Co-Chair | Forest Decker | David Mecklenburg | Joan Steurer |
| Jean Schumacher, Co-Chair | David Dods | Helene Miller | |
| Sam Alpert | Richard Enfield | Wendy Sangster | |
| Scott Cahail | Marty Kraft | Ann Simpson | |

Transportation Work Group (Phase 2)

Phelps Murdock, Co-Chair
Tom Jacobs, Co-Chair
Janet Baker, Facilitator
Bruce Wiggins, City Staff

| | | | |
|---------------|------------------|-----------------|-----------------|
| Carol Adams | Tom Gerend | Michael Landvik | Debra Smith |
| Amy Bhesania | Mike Graf | Tim Lawler | Vicki Standart |
| David Brown | Heather Hamilton | Ron McLinden | Sam Swearngin |
| Teresa Edens | George Helmkamp | Carole Mehl | Tom Swenson |
| Michelle Eis | Brent Hugh | Teola Powell | Claus Wawrzinek |
| Marge Gasnick | James Joerke | Deb Ridgway | Walter Winch |

GREATER KANSAS CITY CHAMBER OF COMMERCE, ENERGY POLICY TASK FORCE –
CLIMATE PROTECTION SUB-GROUP

The Climate Protection Sub-group was comprised of representatives of the Chamber’s Energy Policy Task Force and representatives of the City’s Climate Protection Plan Work Groups. Staff support was provided by the City of Kansas City, Missouri.

| | | | |
|-----------------------|-------------|----------------|-----------------|
| Laura Thompson, Chair | Ryan Evans | James Joerke | Gerald Shechter |
| Susan Brown | Jason Fulp | Brian Kirk | Sam Swearngin |
| Kevin Bryant | Jamie Green | Dennis Murphey | Jim van Eman |
| Jeff Dykes | Bob Housh | Brad Nies | |



STAFF OF THE CITY OF KANSAS CITY

Wayne A. Cauthen - City Manager

Dennis Murphey - Chief Environmental Officer, Office of Environmental Quality

Gerald Shechter - Sustainability Coordinator, Office of Environmental Quality

Sherri Lewis - Administrative Assistant, Office of Environmental Quality

Diane Utz - Project Specialist for Baseline Inventory, Office of Environmental Quality (Phase 1)

Katie Grotegut - Intern, Office of Environmental Quality (Phase 1)

Bruce Wiggins - Senior Planner, City Planning and Development Department

Ronald Simmons - Graphic Designer, City Planning and Development Department (cover design)

Richard DeHart - Director of Administration, Office of Mayor Kay Barnes (Phase 1)

Thanks also are due to numerous current and former staff from the City of Kansas City, Missouri who were either members of, or who met with and advised, the Work Groups throughout the Phase 1 and Phase 2 planning process.

FACILITATORS

ASTRA Communications – Lynn Hinkle, Janet Baker, David Dods, Kate Barsotti and Terry Usina Boyer

ENVIRONMENTAL MANAGEMENT COMMISSION

The Climate Protection Plan Steering Committee and City staff wish to recognize and to express special thanks to the Kansas City, Missouri Environmental Management Commission (EMC) for its leadership and foresight in setting the tone and direction for development of the Climate Protection Plan. In November, 2006, the EMC published and distributed a report titled "Kansas City Climate Protection - Research and Recommendations for a Comprehensive Planning Process." At the request of former Mayor Kay Barnes, the EMC prepared the report and recommendations for actions to be taken by the City in response to the Mayor's endorsement of the U.S. Mayors Climate Protection Agreement on June 13, 2005. On November 2, 2007, in conjunction with 17 other mayors in the region, Mayor Mark Funkhouser reiterated Kansas City's commitment by signing the U.S. Mayors Climate Protection Agreement, making Kansas City one of the few, if not the only, city with two consecutive mayors signing the Agreement.

The EMC's report, concluded that "Undertaking a Climate Protection Planning Process will likely produce many benefits including increased economic strength resulting from reduced vulnerability to fossil fuel price instability, greater success in economic development as Kansas City distinguishes itself in the competitive world market, increased public health resulting from lower levels of energy-related air emissions, public health improvements from better buildings with better indoor air quality, and stronger neighborhoods that have discussed their opportunities and implemented micro-solutions."

Further, the EMC concluded, "Development of a Climate Protection Plan for Kansas City can provide an impetus for the whole community to consider what kind of natural and built environment will serve our city best in the long term."

The Climate Protection Plan Steering Committee and City staff followed this lead.



The current members of the EMC have continued to provide strong support for development of the City's Climate Protection Plan.

Environmental Management Commission - 2006

J.C. Alonzo, Co-Chair
Bob Berkebille, Co-Chair
Carol Adams
Andrew Bailey
Shawna Bligh
Faith Brennan
Sherry Jackson
Thomas Kimes
Marty Kraft
James Scott
James Sheppard
Jim van Eman
John Ware

Environmental Management Commission - 2008

Carol Adams, Co-Chair
Bob Berkebille, Co-Chair
Jimmy Adegoke
Amy Bhesania
Faith Brennan
Linda L. Clark
Taylor Haynes
Stephen Hopkins
Dustin Jensen
Marty Kraft
Donovan Mouton
Richard Rocha
Jack Schrimsher
James Scott
Rachel Treanor
Jim van Eman
John Ware

We wish to express our thanks to the Ewing M. Kauffman Foundation, Mid-America Regional Council, Maplewoods Community College, Penn Valley Community College, the Kansas City Public Library, and the City Clerk's Office of Kansas City, Missouri for providing the Steering Committee and Work Groups with meeting space.

For additional information about the planning process or the findings and recommendations in this Climate Protection Plan, contact:

Dennis Murphey, Chief Environmental Officer, City of Kansas City, Missouri
816.513.3459 dennis_murphey@kcmo.org





City of Kansas City, Missouri Progress Report on Climate Protection

Background and Planning Process

Global climate change is real, human activities are a significant factor, and the consequences, if not addressed, will be severe for all of humankind, including Kansas City. The evidence for these assumptions is clear and compelling.

In response to the mounting evidence about climate disruption, the U.S. Conference of Mayors in 2005 launched an initiative called, "The U.S. Mayors Climate Protection Agreement." Mayor Barnes signed the resolution on behalf of the City of Kansas City. On August 17, 2006, the City Council passed Resolution 060777 directing the City Manager and the City's Chief Environmental Officer to undertake a climate protection planning process in active consultation with the community. On November 2, 2007 Mayor Funkhouser also signed the U.S. Conference of Mayors Climate Protection Agreement.

KANSAS CITY'S CLIMATE PROTECTION PLANNING PROCESS

Following enactment of Resolution 060777, the Mayor appointed a Steering Committee of 11 community leaders to oversee the planning process, establish greenhouse gas emission reduction goals, and to identify recommended greenhouse gas reduction actions. The Steering Committee began meeting in late October 2006. With the assistance of the City's Chief Environmental Officer, the committee approved a planning process that included five phases:

1. Conduct a baseline greenhouse gas emissions inventory and forecast
2. Adopt an emissions reduction target
3. Develop a climate action plan for reducing emissions
4. Implement policies and measures
5. Monitor and verify results.

To fulfill the resolution's mandate to undertake planning with the community, volunteer Work Groups were created, including a broad range of knowledgeable people from the community. With adoption of the City Council resolution, many people volunteered their time and expertise. In addition, it was made clear to all interested persons that the Work Group meetings were open to everyone who cared to attend and participate.

The City of Kansas City joined ICLEI - Local Governments for Sustainability (www.iclei.org) and utilized its Clean Air and Climate Protection Software to develop a baseline inventory of greenhouse gas emissions. The software was also very useful in projecting future emissions and in assessing greenhouse gas impacts of various actions taken to reduce emissions.

Beginning in December, 2006, and for four months extending into 2007, over 70 citizens worked collaboratively to develop 32 recommendations for GHG reduction measures in Phase 1. The Steering Committee adopted a goal of 30% GHG emissions reduction below 2000 levels by 2020 for city government operations, and approved the Work Groups' Phase 1 recommendations for action. Those recommendations, approved by the Steering Committee and adopted by the City Council on April 12, 2007, are currently being implemented.

In September, 2007, more than 50 citizens began their work to develop Phase 2 recommendations that supported development of community-wide goals as well as additional city government goals. These volunteers represented regional groups, businesses, neighborhoods, non-profits and governments. They reviewed the work remaining from Phase 1 and organized into two Work Groups for Phase 2.



Phase 1 Work Groups

1. Energy
2. Carbon Offsets and Waste Management
3. Transportation
4. Policy and Outreach

Phase 2 Work Groups

1. Buildings and Infrastructure
2. Transportation

In addition to the eight monthly meetings of the Work Groups in Phase 2, each Work Group was further divided into sub-committees which met more often to develop recommendations in the specific areas of:

Transportation

Business
Citizens
Transit

Buildings and Infrastructure

Green Buildings
Land Use and Planning
“No Waste”
Renewable Energy

Members of the respective sub-committees made presentations to, and received input from, the Steering Committee. Final Phase 1 and Phase 2 recommendations, summarized in the section “Greenhouse Gas Emission Reduction Goals” and detailed in Appendices A and B, were developed by consensus in a joint meeting of the Work Groups at the end of each phase of work. The final recommendations for Phase 2 were submitted to the Climate Protection Steering Committee in May, 2008.





City of Kansas City, Missouri Progress Report on Climate Protection

Greenhouse Gas Emissions Inventory & Forecast

ICLEI's Clean Air and Climate Protection Software¹ allows local governments to estimate and track greenhouse gas emissions from energy and waste-related activities at the community-wide scale and those resulting directly from municipal operations. The software provides the basis for creating an inventory of emissions for the years 2000 and 2005, along with a forecast to the year 2020. It also enables the quantification of emissions reductions associated with proposed as well as implemented measures.

BASELINE INVENTORY – Years 2000 and 2005

Community-wide Greenhouse Gas Emissions

Community-wide activities that are used in the software are energy consumption, transportation, and waste generation. Major energy suppliers, transportation, and waste officials furnished data for the inventory. This inventory does not account for all sources of greenhouse gas emissions, but identifies the activities that are making the most significant contributions and those that can be readily measured in the future, allowing us to gauge progress.

A baseline year is needed, and the Steering Committee chose the year 2000, primarily because data from earlier years was not available. The Steering Committee's recommendations for greenhouse gas reductions are in reference to this base year. Emissions are in metric tons to reflect the unit of measure that most other local governments have used in estimating greenhouse gas emissions. One metric ton equals 2,200 pounds. The graphs and tables below provide details of community-wide emissions growth from the year 2000 to the year 2005. Between 2000 and 2005, community-wide GHG emissions increased by 4.0%

City Government Greenhouse Gas Emissions

Government activities used in the software include energy consumption in buildings and operations, consumption of fuel by employee commuting & fleet operations, and waste generation in City buildings. These measures are a part of the overall community-wide inventory, but are calculated separately, allowing government to concentrate on its contributions. As with the community inventory, the baseline data for the municipal government accounts for the major greenhouse gas emissions, but not all sources. The charts below show municipal government emissions for the years 2000 and 2005.

Between 2000 and 2005, the City achieved an estimated reduction in greenhouse gas emissions of 6.8%. These savings came from energy conservation programs implemented at City Hall, the Convention Center Complex, the Water Services Department and the Aviation Department and conversion to energy efficient traffic signal lights. Also, by 2005, the City converted all diesel vehicles in its fleet to B-20 fuel (a mixture of 20% biodiesel and 80% conventional diesel) and doubled the number of compressed natural gas (CNG) vehicles in the City fleet (from 90 to 181).

Note: Some significant energy conservation measures had already been implemented by 2000 (for example, conversion of street lights to high-pressure sodium and energy efficiency measures for part of the Convention Center Complex project).

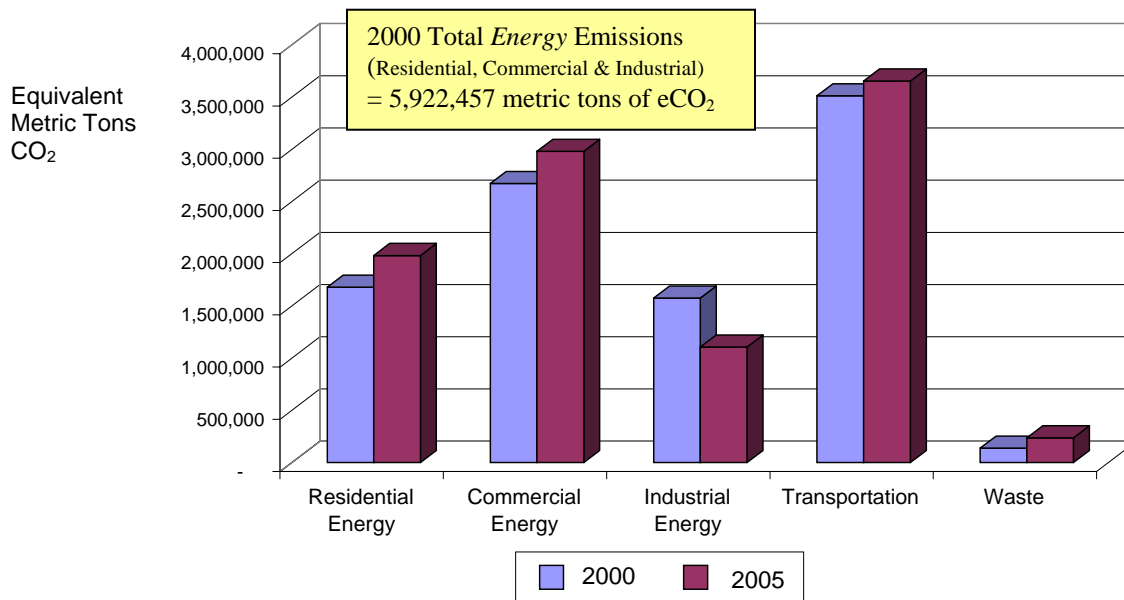
¹ This software was developed by the State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), International Council for Local Environmental Initiatives (ICLEI) and Torrie Smith Associates, and has been used by many local governments to estimate greenhouse gas emissions.



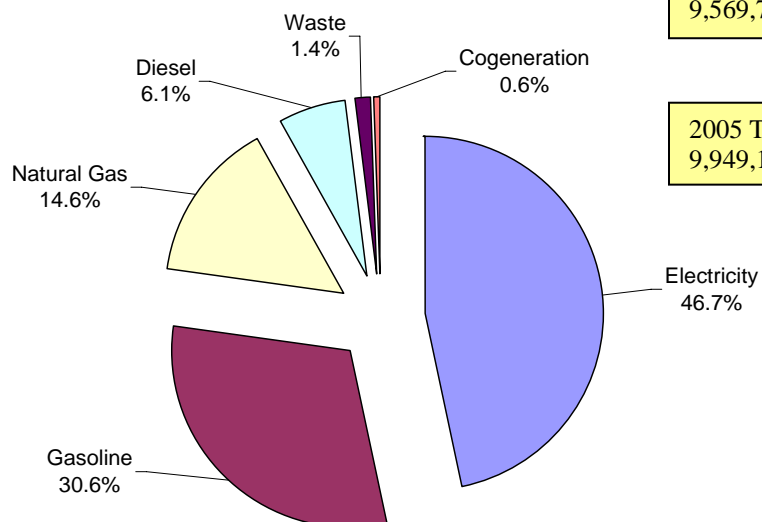
Baseline Community-Wide Inventory – Years 2000 and 2005

City of Kansas City, Missouri

**2000 and 2005 Community Wide
Greenhouse Gas Emissions by Sector**



**2000 Community Wide
Greenhouse Gas Emissions by Source**



2000 Total Emissions = 9,569,764 metric tons of eCO₂

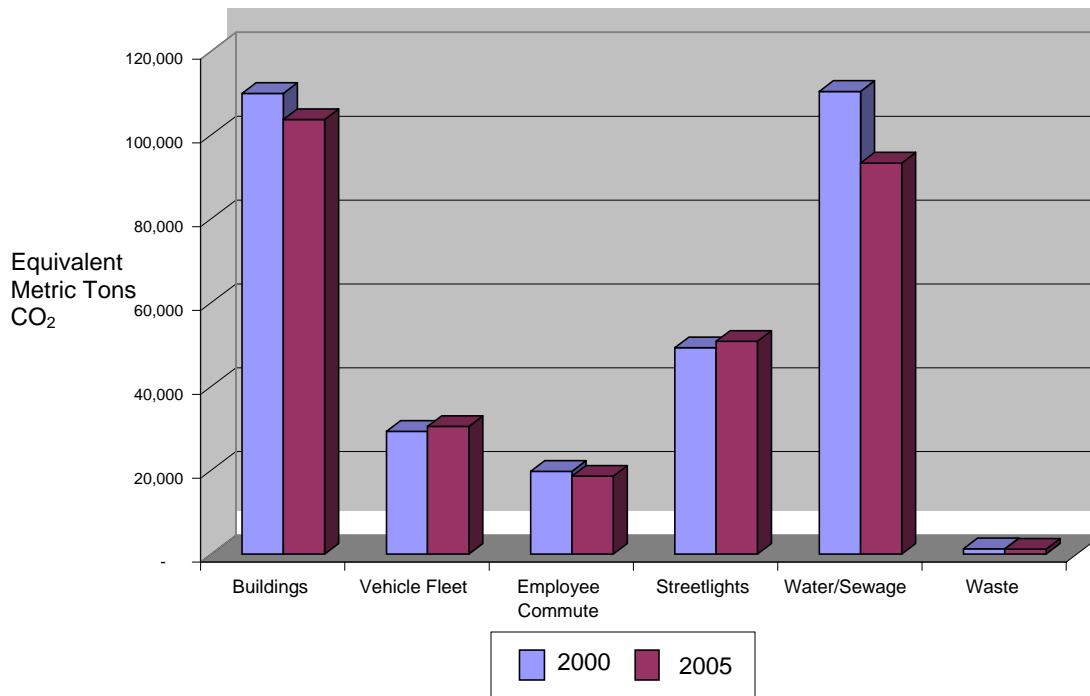
2005 Total Emissions = 9,949,198 metric tons of eCO₂



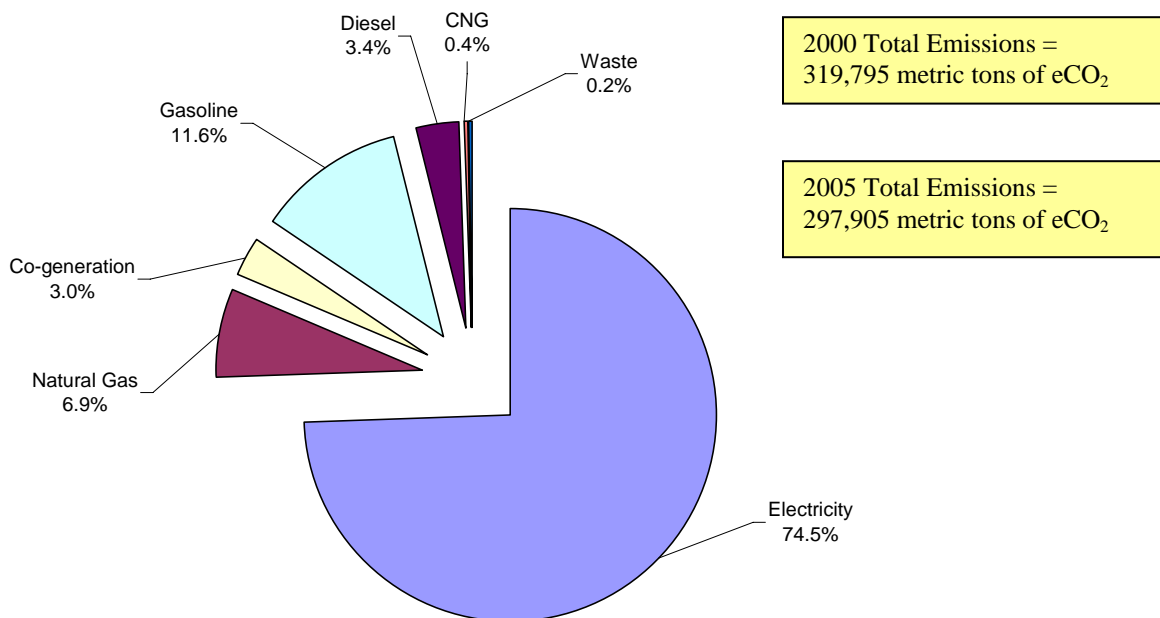
Baseline Municipal Government Inventory – Years 2000 and 2005

City of Kansas City, Missouri

**2000 and 2005 Greenhouse Gas Emissions by Sector
from City of Kansas City Government Activities**



**2000 Greenhouse Gas Emissions by Source
from City of Kansas City Government Activities**



FORECAST FOR GREENHOUSE GAS EMISSIONS

Table 1 shows the projected annual community-wide emissions in the year 2020 if actions are not taken to reduce greenhouse gas emissions. A separate projection of municipal emissions was not done, because the software does not have that capability and the municipal emissions are a subset of the overall community-wide emissions. The 2000 – 2005 trends are the basis of projections to the year 2020, except that industrial energy is projected to increase slightly from 2005 as a result of projected changes in the economy and economic development efforts. The biggest increases in emissions are projected to be in transportation and residential energy.

Table 1
City of Kansas City, Missouri
Recent Changes and Projections of Community-Wide
Annual Greenhouse Gas Emissions

| | Equivalent Carbon Dioxide (eCO ₂) Metric Tons | | |
|--------------------|--|-----------|-------------------|
| | 2000 | 2005 | Projected 2020 |
| Residential Energy | 1,677,943 | 1,980,491 | 2,279,117 |
| Commercial Energy | 2,670,955 | 2,978,445 | 3,197,388 |
| Industrial Energy | 1,573,559 | 1,105,273 | 1,237,905 |
| Transportation | 3,510,795 | 3,651,399 | 4,283,837 |
| Waste | 136,513 | 233,591 | 299,116 |
| Total | 9,569,764 | 9,949,198 | 11,341,194 |





City of Kansas City, Missouri Progress Report on Climate Protection

Building on Existing Activities

Prior to initiating its climate protection planning process, the City of Kansas City had already undertaken a number of programs, policies and projects that have resulted in reduced greenhouse gas emissions. In addition, other KC metropolitan-area governments and organizations (both private for-profit and non-profit) have begun programs that have reduced greenhouse gas emissions. Some of these initiatives are listed below. While these actions were not undertaken for the purpose of reducing greenhouse gas emissions (they may have been done to save money with energy conservation, for example), they have had the effect of reducing greenhouse gas emissions and demonstrate that:

- **There are multiple benefits of actions to reduce greenhouse gas emissions.**
- **Emissions reductions are realistic and there are many practical steps that can be taken.**

To fully understand the impact of Kansas City's Climate Protection efforts, at this time, it is critical to place it in the context of what else is occurring to strategically launch Kansas City into a sustainable future. Since the adoption of the "Progress Report on Climate Protection and Phase 1 Recommendations" on April 12, 2007, we are pleased to report that these key strategic initiatives have also strongly taken hold, involving thousands of Kansas Citians and engaging the infrastructure of metro Kansas City's decision makers in the transformation to a new paradigm of sustainability:

- "Green Solutions Policy" adopted by the City Council, establishing the policy of the City to integrate green solutions in our City planning and development processes (Resolution #070830).
- Green Solutions Administrative Regulation adopted by the City Manager directing City departments to incorporate green solutions into City policies, projects, and programs (A.R. 5-5).
- City Council decision to require Energy Star standards for new construction and substantial rehabilitation to be undertaken using City funds (Ordinance #080543).
- City Council decision to require, for inclusion in all fact sheets for ordinances and resolutions, an answer to the question "How will this contribute to a sustainable Kansas City?" (Ordinance #080246).
- In April, 2008, a KCMO Green Summit 2008 attended by over 440 persons provided an opportunity to identify ways to incorporate green solutions into City projects.
- On June 2-3, 2008, the City Manager convened a two-day Sustainability Workshop attended by more than 80 department directors and senior City staff. The workshop was a forum to develop strategies and actions to incorporate a triple bottom line approach (i.e., simultaneously promoting social, economic, and environmental vitality) in all City operations.
- Conversations on the Environment has been the first major component of the communications and outreach strategy identified as critical in the "Progress Report on Climate Protection and Phase 1 Recommendations." It is an ongoing series of thought provoking presentations by nationally recognized experts on how we can improve our environment and transform our community through sustainable living. Partners in the series include ASTRA Enterprises, BNIM Architects, the Kansas City Public Library, *Kansas City Business Journal*, Rainy Day Books, Kansas City Public Television, Bridging the Gap, *Greenability Magazine* and the City of Kansas City, Missouri. Speakers to date include: Ray Anderson, Majora Carter, Hunter Lovins, Richard Louv. Other speakers who have addressed this community, although not part of the CoE, include Andrew Winston, author of "Green to Gold", and Mayor John Hickenlooper of Denver.
- The Kansas City Climate Protection Partnership, developed and coordinated by the Greater Kansas City Chamber of Commerce, offers businesses and organizations the opportunity to lead the community toward the complementary goals of reduced regional greenhouse gas emissions and increased economic



competitiveness. As of June 15, 2008 there were 150 metro area employers who had pledged to be climate protection partners.

- On November 2, 2007, in conjunction with 17 other mayors in the region, Mayor Mark Funkhouser reiterated Kansas City's commitment by signing the U.S. Mayors Climate Protection Agreement making Kansas City the one of the few, if not the only, city with two consecutive mayors signing the Agreement.
- The Civic Council, in partnership with Mid-America Regional Council, the Greater Kansas City Chamber of Commerce, the KC Area Development Council, Bridging The Gap, Johnson County, Kansas, and the City of Kansas City, Missouri initiated a "Strategy to Become America's Green Region." The strategy envisions a broad engagement of the metro area community to create and support a sustainable region that increases the vitality of our society, economy, and environment for current residents and future generations.
- In March 2007 Kansas City Power & Light Co (KCP&L) signed an agreement with the Sierra Club and the Concerned Citizens of Platte County (CCPC) committing to offset 6 million tons of greenhouse gas emissions through a combination of energy efficiency programs for the public, internal energy efficiency improvements, and 400 MW of additional renewable wind energy generation capacity.
- Mid-America Regional Council (MARC) established the Academy for Sustainable Communities providing leadership training and technical training in support of sustainability
- Bridging The Gap initiated a "5 Green Things Campaign" that provides information to the public regarding actions they can take to incorporate energy efficiency and sustainability in their personal lives and reduce GHG emissions.
- Over the past six years, sustainability workshops, facilitated by Bob Mann at Bridging The Gap's Shadowcliff Lodge, have been attended by more than 200 leaders from businesses, non-profits, and government organizations across the metro area to explore the possibilities for regional collaboration to make Kansas City a sustainable region.
- Sustainable Skylines Initiative is a collaborative project, funded by the US-EPA, to achieve measurable environmental benefits through locally-guided projects, while also contributing to the vitality of the metropolitan Kansas City economy and the quality of life of Kansas City metropolitan citizens. This initiative may include projects that address climate, transportation, energy, land use, resource efficiency, water, and air quality in the Kansas City metropolitan area. Sustainable Skylines partners include U.S> EPA Region 7, Johnson County, Kansas, Unified Government of Kansas City, Kansas and Wyandotte County, Missouri Department of Natural Resources, Kansas Department of Health and Environment, and the Greater Kansas City Chamber of Commerce.

A detailed summary of environmental strategic and leadership initiatives are available as Appendix F and Appendix G of this Plan.

Given the critical mass of Phase 1 activities already underway, this Climate Protection Plan builds strongly on existing community environmental leadership initiatives, looking for synergies wherever possible, and seeking opportunities to "Commit, Collaborate, Communicate, Conserve, Create", the five elements in the "Strategy to Become America's Green Region."





City of Kansas City, Missouri Progress Report on Climate Protection

Appendices

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| Appendix A | Detailed descriptions of Phase 1 Recommendations |
| Appendix B | Detailed descriptions of Phase 2 Recommendations |
| Appendix C | Implementation Status of Phase 1 Greenhouse Gas Reduction Measures |
| Appendix D | Report of Greater Kansas City Chamber of Commerce – Energy Policy Task Force, Climate Protection Sub-Group |
| Appendix E | Notes on Data for Clean Air and Climate Protection Software |
| Appendix F | GOING GREEN IN KANSAS CITY: Where We Are & Where We're Going |
| Appendix G | Existing Activities |

