

CITY COUNCIL REPORT

TO: Alton J. Washington
Assistant City Manager

FROM: Karen O'Regan
Environmental Programs Manager

SUBJECT: CITY OF PHOENIX CLIMATE CHANGE ACTION

This report provides information on global climate change and recommends that the City demonstrate its commitment to reduce greenhouse gas (GHG) emissions by: 1) approving the attached Resolution endorsing the Arizona Climate Change Action Plan and the Arizona Governor's goal to reduce statewide GHG emissions, and 2) approving a consultant selection process to conduct a GHG emissions inventory for City operations.

THE ISSUE

Climate Change Effects

An overwhelming body of scientific evidence has shown that since the beginning of the industrial revolution, human activities have been adding measurably to natural background levels of greenhouse gases, including primarily carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons. These gases are emitted by the burning of fossil fuels by power plants, vehicles, and other combustion engines. The heat-trapping properties of these gases contribute to increases in global temperature and changes in precipitation as well as soil moisture and sea levels, resulting in adverse effects on many ecological systems.

The Arizona Climate Change Action Plan (August 2006) reports potential significant impacts in Arizona. In western North America, the climate has warmed on average by 1.4 degrees Fahrenheit over the past 50 years. Climate models predict future June to August temperature increases of 3.6 to 9.0 degrees by 2040 to 2069. Higher temperatures and increased evaporation can lower water levels in reservoirs, lakes and streams, resulting in water supply and quality issues. Conservative estimates of climate change predict significant potential impacts on the Colorado River by the end of this century. Those impacts include a 15 percent reduction in annual runoff, a 40 percent decrease in basin storage, and a decline in hydroelectric power to 45 to 56 percent from the historical average. Climate change could also reduce Arizona's forested areas by 15 to 30 percent, exacerbate wildfires and air pollution, and alter Arizona's crop production.

State Climate Change Action

In 2005, Governor Janet Napolitano established the 35-member Climate Change Advisory Group (CCAG) which was chaired by Arizona Department of Environmental

Quality (ADEQ) Director Steve Owens. The City of Phoenix served on the CCAG, as well as on several technical work groups and helped develop the recommendations included in the CCAG Climate Change Action Plan (August 2006).

As part of the state climate change efforts, the Center for Climate Change Strategies, Inc. (CCSI) prepared a preliminary GHG emissions inventory and forecast for Arizona. Critical findings included:

- Between 1990 and 2005, Arizona's net GHG emissions increased by nearly 56%.
- Arizona's GHG emissions are forecasted to increase by 148% from 1990 to 2020, (even taking into account the effects of recent energy efficiency actions adopted by the State).
- Compared to seven other states with Climate Action plans including California, Nevada and Oregon, Arizona's GHG emissions growth is significantly higher.
- The transportation and electricity sectors account for roughly 77% of Arizona's total GHG emissions.

Arizona's GHG emission rate presents challenges because of the large portion of emissions directly related to energy and transportation. However, continued dramatic growth in these sectors also provides the opportunity for future development to be more energy efficient, use more renewable energy sources, and increase the use of cleaner transportation options.

Based on recommendations in the CCAG Climate Change Action Plan, Governor Napolitano issued Executive Order 2006-13 on September 7, 2006, which establishes a goal to reduce statewide GHG emissions to the 2000 levels by the year 2020, and 50 percent below the 2000 levels by the year 2040. The Governor's Executive Order also establishes a Climate Change Executive Committee and charges them with proposing strategies to the Governor for implementing the recommendations in the Climate Change Action Plan. The CCAG report includes 49 policy recommendations from technical working groups that focus on Energy Supply; Residential, Commercial and Industrial; Transportation and Land Use; Agriculture and Forestry; and Cross Cutting Issues.

Phoenix' Climate Change Actions.

Staff recommends that the City Council adopt the attached Resolution to demonstrate the City's support of the State plan to reduce statewide GHG emissions, and intention to continue identifying and implementing programs to reduce GHG emissions from City operations.

Phoenix has consistently demonstrated its commitment to environmental stewardship and to reducing GHG emission reduction programs through numerous pollution control and natural resource conservation programs. That effort can be sustained through continuation and possible expansion of these programs and consideration of new

programs. The following programs have helped reduce GHG emissions from city operations:

- Light rail and expanded transit
- Growth and environmental policies in the General Plan
- Alternative fuel fleet
- International Energy Conservation Code
- Energy Star purchasing policy
- LEED Green Building policy
- Residential recycling program
- Pedestrian friendly development
- Heat Island Task Force
- Water Conservation and reuse
- Open space preservation

The first step in a City climate change program is to complete a detailed inventory of municipal GHG emissions for base year 2000 and project emissions for the future. The Office of Environmental Programs has worked with Budget and Research to re-allocate funds for this project. A current cost estimate for a GHG emissions inventory for City operations is approximately \$75,000 to \$100,000.

The inventory will estimate the impact of the City's energy conservation, alternative fuels and other programs implemented since 2000. Finally, the inventory will enable the City to evaluate opportunities for establishing Phoenix-specific GHG reduction goals and potential impacts from additional energy conservation, fuel efficiency, transportation improvements and other measures.

RECOMMENDATIONS

Staff recommends Council approval of the attached draft Resolution endorsing the State of Arizona's plan to reduce statewide GHG emissions, and declaring the City's intention to continue identifying and implementing programs to reduce GHG emissions from City operations. In addition, staff requests Council approval to begin a consultant selection process to conduct a GHG emissions inventory of City operations.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY OF PHOENIX
CLIMATE CHANGE ACTION

WHEREAS, the City of Phoenix has particular concerns about the impacts of climate change and climate variability on residents, businesses, and the environment, including the potential for prolonged drought, warmer temperatures, adverse impacts on water supplies, and other effects; and

WHEREAS, there is a scientific consensus that increasing emissions of carbon dioxide, methane, and other greenhouse gases released to the atmosphere are affecting the earth's climate; and

WHEREAS, the Intergovernmental Panel on Climate Change (IPCC), the international community's most respected assemblage of scientists, has found that human activities are largely responsible for increasing concentrations of global warming pollution; and

WHEREAS, the City of Phoenix served on Arizona's Climate Change Advisory Group which developed recommended actions to reduce greenhouse gas (GHG) emissions in the State of Arizona, which are projected to increase by an estimated 148 percent over 1990 emissions levels by 2020; and

WHEREAS, on September 7, 2006 the Governor of the State of Arizona issued Executive Order 2006-13, Climate Change Action, which set a goal to reduce greenhouse gas emissions in Arizona to 2000 emissions levels by 2020 and to 50 percent below 2000 emissions levels by 2040; and

WHEREAS, actions taken to reduce greenhouse gas emissions and conserve fossil fuels may have multiple benefits, including economic development, job creation, cost savings, and improved air quality; and,

WHEREAS, the City of Phoenix is implementing a wide range of programs to help reduce greenhouse gas emissions;

NOW THEREFORE, be it resolved that the City of Phoenix endorses the Arizona Governor's goal to reduce statewide greenhouse gas emissions to 2000 emissions levels by 2020 and 50 percent below 2000 emissions levels by 2040. The City will continue to demonstrate its commitment to reducing greenhouse gas emissions through programs such as:

1. Practice and promote smart growth planning, policies and zoning, infill and brownfields development and incentives, pedestrian friendly and transit oriented development, and heat island reduction activities;
2. Promote transportation options such as a bikeway system, trip reduction programs, light rail, public transit, rideshare and carpooling incentives and bikes on buses;
3. Promote the use of renewable energy resources such as gas-to-energy, solar projects and other innovative technologies;
4. Conduct energy practices and projects in City facilities and operations such as energy efficiency retrofits, energy conservation outreach, energy efficient lighting, Energy Star equipment, energy efficient heating and cooling systems;
5. Consider adopting energy efficient building codes for commercial and residential development;
6. Practice and promote sustainable building practices for city buildings using the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED), or similar program;
7. Evaluate and purchase fuel-efficient, and alternative/clean fuel vehicles for the city fleet;

8. Practice and promote recycling, household hazardous waste collection events, mulching, and rubberized asphalt programs;
9. Practice and promote pollution prevention actions, such as product substitution and process changes, and environmentally preferable purchasing programs;
10. Practice and promote water conservation, riparian area restoration and preservation, water protection and planning, and water reclamation and reuse programs;
11. Practice and promote programs to preserve open space for urban forest programs, parks, vegetation, and trees on city properties; and,
12. Coordinate with other governments on regional and statewide climate change programs including the Arizona Climate Change Executive Committee.

PASSED by the Council of the City of Phoenix this _____ day of (month), (year).

MAYOR

ATTEST:

City Clerk

APPROVED AS TO FORM:

City Attorney

REVIEWED BY:

City Manager