

Staff Report

COOL CITIES INITIATIVE ESTABLISHING BASE-LINE INVENTORY FOR CO2 EMISSIONS RELATED TO CITY OPERATIONS

BACKGROUND:

On May 5, 2007, City Council adopted Resolution No 07-342 to make Ames a more environmentally sustainable community. This resolution authorized the Mayor to sign the U.S. Mayors Climate Protection Agreement, to support the "Cool Cities" initiative, which activated the city's leadership role in reducing greenhouse gas emissions, referred to as a carbon footprint. From this action, the City Manager created a team of city employees to assist the City Council in implementing this initiative in all city operations. This task includes the following steps:

1. Create a base year inventory of greenhouse gas emissions from all city operations (City Staff)
2. Set emission reduction goals and target dates (City Council)
3. Develop strategies to reduce emissions in city operations (City Staff)
4. Implement the strategies (City Staff)
5. Monitor and report on progress (City Staff)

ANALYSIS TECHNIQUE

One of the organizations that support this Cool City initiative is the International Council for Local Environmental Initiatives (ICLEI). This organization has developed a software program that is designed to convert energy data into tons of CO2 greenhouse gas emissions and pounds of other air pollutants. This software uses embedded co-efficient conversion tables to calculate these emissions. It is recommended that "Cool Cities" utilize this software in evaluating the progress of their sustainability efforts; therefore a copy of the software has been obtained by the City staff and is being used to develop this program.

In accordance with the City Council's goal of "Going Green", the initial thrust of this initiative is directed toward City operations. The ICLEI software is designed to analyze emissions in regards to buildings, fleet, and streetlights.

The software also allows us to calculate CO2 emissions separately for what the ICLEI describes as "community" operations for such facilities as our water, pollution control, resource recovery, and electric plants.

In an effort to create a base-line inventory of emissions, staff collected historical energy consumption data for each sector as far back in time as possible. The Cool Cities Agreement suggests 1990 as the base year. However, since it was not possible to obtain all the necessary data from 1990 to complete the analysis, City staff is relying on data that could be identified as far back as 2001 to 2006. Because of the variability of these six years, staff has used the average of this period to form the base-line inventory. Since we have taken numerous steps to reduce emissions since 1990, using these later dates will pose a more challenging goal to achieve.

Staff has completed the inventory process which includes gathering, codifying, and entering all the data for years 2001 to 2006 and developing the base-line emission levels for each sector. These base-line levels can be used by the City Council for forecasting the emission reduction targets. Several graphs are attached that show energy consumption by source and greenhouse gas emissions by sector. A brief presentation will be provided to the City Council with a question and answer session to follow.

FINDINGS

Based on the inputs provided by City staff and the output generated by the ICLEI software the following totals were generated:

CO2 Greenhouse Gas Emission from City of Ames Operations

- **Buildings = 4,873 Tons**
- **Fleet = 4,682 Tons**
- **Streetlight = 3,797 Tons**
13,352 Tons

CO2 Greenhouse Gas Emissions from City-Owned Plants

- **Resource Recovery Plant = 2,940 Tons**
- **Water Plant = 4,057 Tons**
- **WPC Plant = 3,733 Tons**
- **Electric Plant = 829,000 Tons**

ESTABLISHING REDUCTION GOALS

The next step for the City Council is to establish goal(s) for reducing carbon emissions. It appears most of the other Cool Cities are attempting to meet or beat the target of reducing global warming pollution to 7% below 1990 levels by 2012, as urged in the U.S. Mayor's Climate Protection Agreement. The Council can adopt this same 7% reduction goal by 2012, or support another percentage and/or target date.

Once this reduction goal is established, the employee committee headed by Paul Hinderaker will create strategies to accomplish this target.