

# Agenda Report

November 18, 2013

**TO:** Honorable Mayor and City Council  
**THROUGH:** Municipal Services Committee (November 12, 2013)  
**FROM:** Planning & Community Development Department  
**SUBJECT: GREENHOUSE GAS EMISSIONS INVENTORY**

**RECOMMENDATION:**

It is recommended that the City Council:

1. Find that the adoption of the Greenhouse Gas (GHG) Emissions Inventory is exempt from the California Environmental Quality Act (CEQA) under §153078 - Actions by Regulatory Agencies for Protection of the Environment and §15262 - Feasibility and Planning Studies; and
2. Adopt the GHG Emissions Inventory.

**ADVISORY COMMISSIONS:**

The Environmental Advisory Commission reviewed the Emissions Inventory on February 19, 2013. The Commission unanimously recommended approval to the City Council and recommended that completion of a Climate Action Plan (CAP) be a priority.

On May 8, 2013, the Planning Commission reviewed the Emissions Inventory. The Commission unanimously recommended that the City Council approve the Emissions Inventory and a recommendation to expedite the development of a CAP with specific timelines for completion. The Commission requested that staff clarify that the baseline year is 2009, and that the City would be credited for any GHG reductions that occurred after 2009.

**EXECUTIVE SUMMARY:**

The City of Pasadena recognizes that GHG emissions from human activity are contributing to global warming and that the City must act to reduce these emissions. The significant gases that contribute to global warming are carbon dioxide, nitrous oxide, and methane gas.

The Emissions Inventory is the first step in addressing GHG emissions. It identifies the sources and quantities of GHG emissions that resulted from activities within Pasadena in 2009. The City will use this 2009 baseline to set future GHG emissions reduction targets in a CAP.

The Emissions Inventory includes a community-wide inventory and a municipal operations inventory that details the GHG emissions generated by the City. The municipal operations inventory is a subset of the community-wide inventory.

The Emissions Inventory indicated that community-wide GHG emissions totaled 2,052,701 metric tons (MT) of carbon dioxide equivalents (CO<sub>2</sub>e) in 2009. Combustion of fuels from the transportation sector accounted for the largest portion (51 percent) of community-wide emissions. The municipal operations inventory showed a total of 121,811 MT of CO<sub>2</sub>e in 2009, and accounted for 6 percent of the community-wide total. Emissions from electric power accounted for the largest portion (60 percent) of municipal operations emissions.

The Emissions Inventory also included best practices for potential inclusion in a future CAP, and a series of City activities that reduced GHG from 2007 to 2011. Any activities to reduce GHG that were enacted after the 2009 base year would count towards City established reduction targets.

## **BACKGROUND:**

### State and Local Action

Recognizing that disruptive climate change poses great risks for California, the State has taken an active approach to reducing GHG emissions through the adoption of legislation and policies. The State has passed legislation that statewide GHG emissions be reduced to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050, and that GHG emissions be analyzed as part of the CEQA process.

On September 18, 2006, the City Council adopted a comprehensive environmental Green City Action Plan and endorsed the US Conference of Mayors' Climate Protection Agreement, which seeks for cities across the United States to commit to reducing global warming pollution levels.

### Purpose of Emission Inventory

The Emissions Inventory was developed to serve the following purposes:

- Provide a listing of Pasadena's major sources of GHG emissions and identify where the greatest opportunities for emissions reduction exist;
- Create a GHG emissions baseline from which Pasadena can set reduction targets, and measure future progress;

- Enable the City to understand the scale of emissions from various sources and develop GHG emissions accounting and reporting principles; and
- Provide best practices to aid in the development of a Citywide CAP.

The Emissions Inventory is the first step in addressing emissions and developing a CAP. The Emissions Inventory does not, however, set a “baseline” for purposes of CEQA analysis for individual projects.

### Inventory Methodology

The Emissions Inventory includes a community-wide inventory and a municipal operations inventory which is a subset of the community-wide inventory. The development of the municipal operations inventory relied on data from various departments and resulted in a committed collaboration across City departments. The methodology included the following:

- A baseline year was established for which data was gathered. Calendar year 2009 was identified as the baseline year due to the availability of more accurate land use and transportation data and to coordinate the Emissions Inventory with the General Plan, and traffic model;
- GHG emissions were calculated using the International Council for Local Environmental Initiatives (ICLEI) Clean Air Climate Protection software. This software is based on the principles and methods of California Air Resources Board-recommended protocols for municipal operations and community inventories;
- The GHG Emissions Inventory follows the Local Government Operations Protocol and the U.S. Community Protocol including the exclusion of emissions from private stationary sources such as cogeneration plants;
- Emissions from electric power generated by Pasadena Water and Power (PWP) were calculated separately by PWP based on California Air Resources Board-approved accounting principles;
- Emissions from the Rose Bowl and Rose Parade were calculated separately;

### Inventory Results

#### *Community-wide Emissions*

The Emissions Inventory indicated that community-wide GHG emissions totaled 2,052,701 MT of CO<sub>2</sub>e in 2009. This includes emissions from:

- Residential electricity and natural gas;
- Commercial/industrial electricity and natural gas;
- Combustion of fuels for transportation;
- Methane from solid waste; and
- Electricity for water delivery.

Combustion of fuels from the transportation sector accounted for the largest portion (51 percent) of community-wide emissions. GHG emissions from municipal operations accounted for 6 percent of the community-wide total.

### *Municipal Emissions*

The municipal operations inventory showed a total of 121,811 MT of CO<sub>2</sub>e in 2009. This includes emissions from the following:

- Local generation of electric power;
- Buildings and facilities;
- Streetlights and traffic signals;
- Water delivery facilities;
- Solid waste;
- Transit fleet;
- Vehicle fleet;
- Employee commute; and
- Tournament of Roses and Rose Bowl Stadium.

Emissions from electric power accounted for the largest portion (60 percent) of municipal operations emissions. GHG emissions resulting from the Tournament of Roses and Rose Bowl Stadium events in 2009 were 3,956 MT of CO<sub>2</sub>e and accounted for three percent of the total emissions.

The Emissions Inventory also includes forecasts of how community-wide and municipal GHG emissions would change in the years 2020 and 2035 if consumption trends continue as they were in 2009, accounting for growth in population, employment and vehicle miles traveled. For the community-wide forecast, GHG emissions are projected to grow by 6 percent in 2020 and 15 percent by 2035. For the municipal operations forecast, emissions are projected to grow by 4 percent by 2020 and 8 percent by 2035.

### GHG Emissions and CEQA

Once the Emissions Inventory is adopted, the City can proceed with developing a CAP Plan and CEQA thresholds of significance for GHG impacts from public and private projects. A CAP would allow the City to analyze and impose mitigation for GHG impacts from projects in a more consistent manner, and will lead to more predictable outcomes from the imposition of mitigation measures.

The CAP will enable the City to mitigate the GHG emissions impacts, while also demonstrating that the City is assuming its responsibility for meeting State goals. The CAP will also allow the City to more consistently regulate future development projects, since the City will have a menu of mitigation measures to impose on future projects that are consistent with the CAP. This will simplify and standardize future project GHG analysis. The City will apply CEQA to the CAP and develop the appropriate environmental review document along with the request for approval of the CAP.

### **FUTURE REVIEW & ACTION:**

After the City Council adopts the Emissions Inventory, staff would begin the process of developing a CAP for reducing GHG emissions. The initial step is to identify possible funding sources including any grants that may be available to develop a CAP and identify model plans from other cities that are similar to the Pasadena. The CAP is anticipated to be completed subsequent to adoption of the General Plan Land Use and Mobility Element. Once the EIR and General Plan Land Use and Mobility Elements are adopted, the CAP and its environmental clearance documentation can be completed.

Establishing the CAP subsequent to the General Plan Land Use and Mobility Element updates permits a focused and separate policy discussion targeting emissions reduction. Moreover, the EIR and General Plan Land Use and Mobility Elements have an impact on the CAP as they establish the level of development intensity including, the allowable number of residential units, the square footage of commercial development, the location of new development, the mix of uses and an evaluation of transportation related impacts.

### **COUNCIL POLICY CONSIDERATION:**

The adoption of the Emissions Inventory establishes a baseline for which the City can develop a plan to reduce emissions. One of the Council's Strategic Planning Goals is to increase conservation and sustainability. Adoption of this Emissions Inventory identifies the sources of the City's GHG emissions which is a pre-requisite to establishing a CAP to reduce GHG and assist in making Pasadena more sustainable.

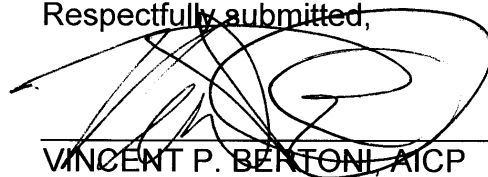
### **ENVIRONMENTAL DETERMINATION:**

The adoption of the Emission Inventory has been determined to be exempt from the CEQA under §153078 - Actions by Regulatory Agencies for Protection of the Environment and §15262 - Feasibility and Planning Studies. The adoption of the Emissions Inventory is an action designed to protect the environment. It is also a planning study as it is an inventory of the sources of GHG emissions that occur with the City of Pasadena.

**FISCAL IMPACT:**

The adoption of the Emissions Inventory will not result in a specific fiscal impact as the inventory creates a database related to emissions.

Respectfully submitted,



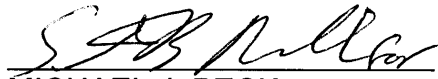
VINCENT P. BENTON, AICP  
Director of Planning & Community  
Development Department

Prepared by:



Denver E. Miller  
Principal Planner

Approved by:



MICHAEL J. BECK  
City Manager

Attachment:

Attachment A - Greenhouse Gas Emissions Inventory