

# **Tucson Region Greenhouse Gas Emissions Inventory Overview**

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# Scope of Project

## **Four Interconnected Inventories:**

- Tucson Community
- Eastern Pima County Community
- City of Tucson Government Operations
- Pima County Government Operations

Cooperative efforts of PAG, City of Tucson and Pima County

## Impetus for Project

### **City of Tucson:**

- U.S. Mayors Climate Agreement (Sept. 2006)

### **Pima County:**

- Board of Supervisors' Sustainability Initiatives (May 2007)

### **Arizona:**

- Executive Order 2006-13 (Sept. 2006)

### **Regional:**

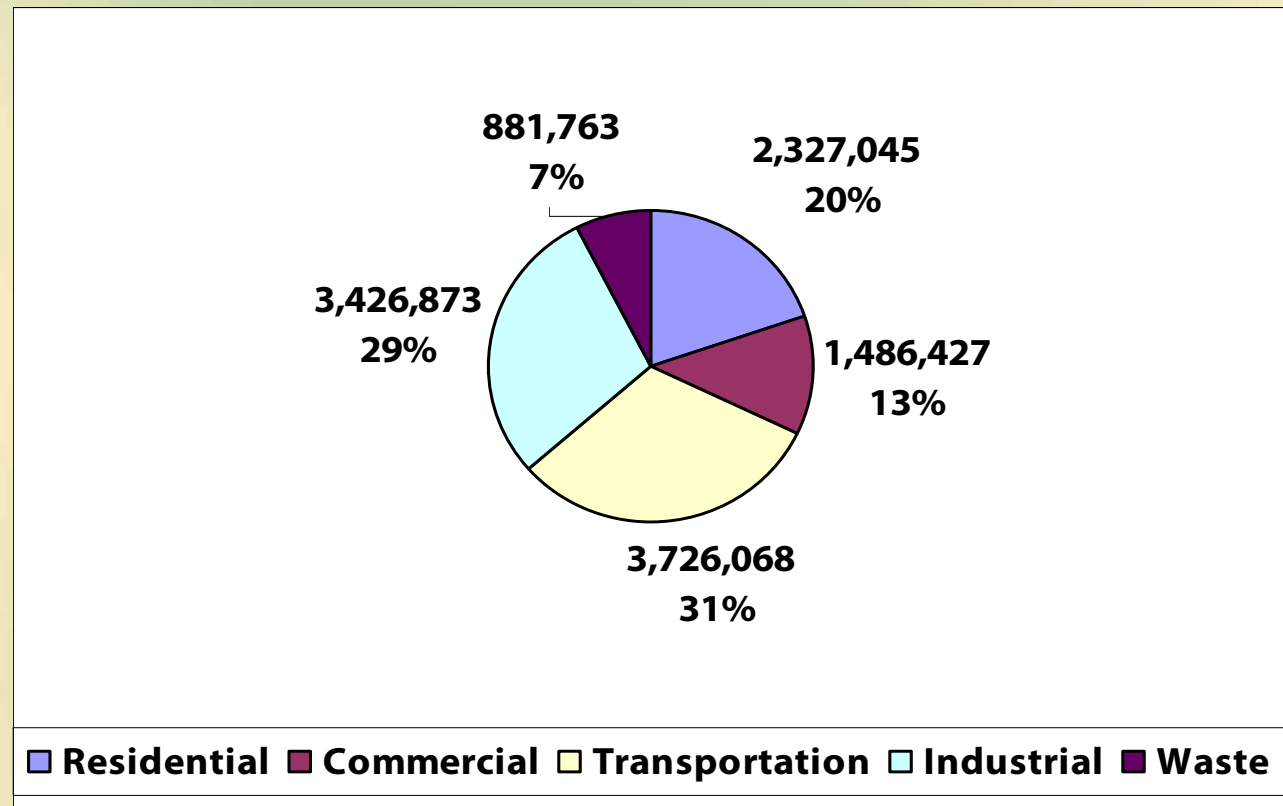
- Western Climate Initiative (Aug. 2007)

# Goals of Inventory

- Establish a preliminary assessment of GHG emissions and major sources
- Examine emission trends from 1990 to present
- Provide data to city and county officials identifying key community and government GHG sources
- Provide a framework to develop GHG reduction strategies to meet goals

# 1998 Tucson GHG EI

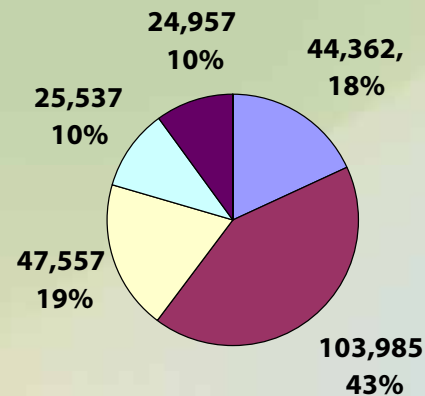
- Tucson citywide CO<sub>2</sub> emissions for 1995 (tons, percent of total)



Venture Catalyst, 1998

# 1998 GHG EI

- City of Tucson government's CO<sub>2</sub> emissions for 1995 (tons, percent total)
- Represents 2 percent of the citywide emissions



■ Buildings ■ Water ■ Fleet ■ Streets ■ SunTran ■

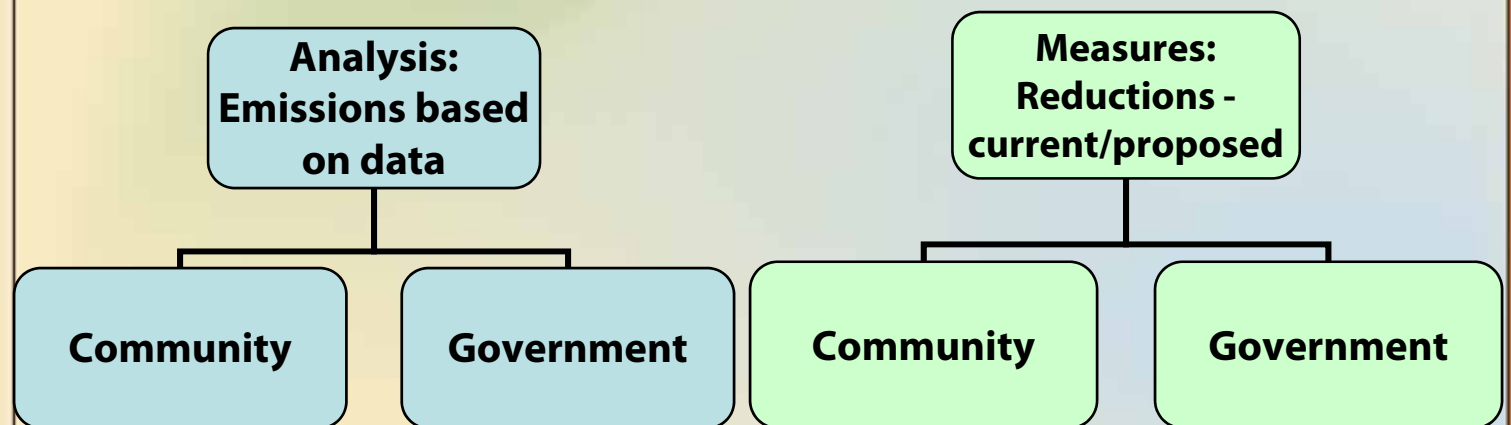
Venture Catalyst, 1998

# CACP Model

- Clean Air and Climate Protection (CACP) software
- Developed by NACAA and the International Council for Environmental Initiatives (ICLEI)
- Inventory, evaluate and compare reduction measures, create action plan
- Calculates GHG emissions (expressed as CO<sub>2</sub> equivalents) produced by energy use and solid waste disposal
- Can estimate criteria pollutants

# CACP Model

- Converts local data to CO<sub>2</sub>e emissions using national, regional or custom emission factors
- Estimates emissions from 1990 - 2020
- Composed of four components:



# Data Inputs

## Community Analysis

- **Residential, Commercial, Industrial** - energy use (electricity, gas)
- **Transportation** – vehicle miles traveled (VMT) by vehicle, fuel type
- **Solid Waste** - amount, disposal method, waste composition
- **Other** - direct emissions

# Data Inputs

## Government Analysis

- **Building, Streetlights, Water/Sewage** - electricity, gas use; costs
- **Employee Commute** - VMT by fuel, vehicle type
- **Vehicle Fleet** - VMT by fuel, vehicle type; costs
- **Waste** - amount, disposal method, waste composition; costs
- **Other** - direct emissions

# Data Inputs

## Community Measures

- **Residential, Commercial, Industrial** - changes in energy use, lighting, energy source; costs
- **Transportation** - before/after fuel, vehicle replacement, VMT reduction, alternate modes of travel; costs
- **Waste** - reduction, recycling, composting; costs
- **Other** - absolute emission reductions

# Data Inputs

## Government Measures

- **Buildings** - change in amount, type, energy source; costs
- **Vehicle Fleet** - change in fuel, vehicle types; costs
- **Employee Commute** - change in VMT, fuel, vehicle type, alternate travel; costs
- **Streetlights** - change in number, use, energy source; costs
- **Water/Sewage** - change in energy source, treatment methods; costs

**Questions?**

**Comments?**

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