

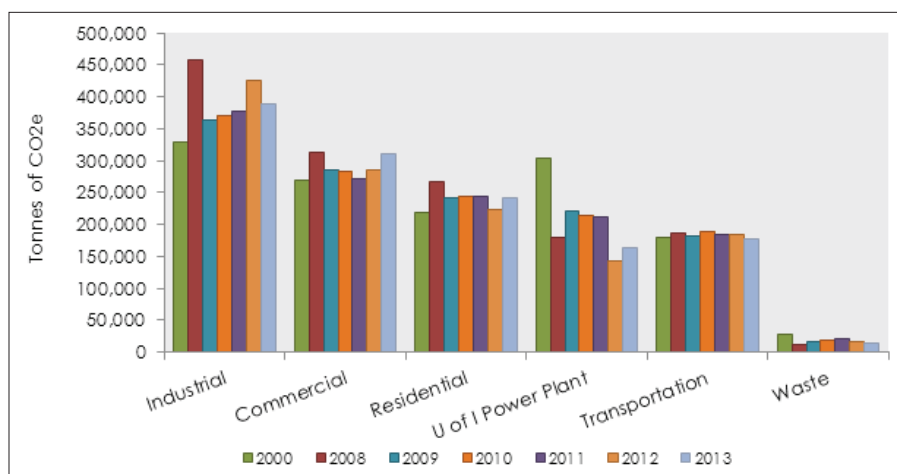
# Greenhouse Gas Update

The City of Iowa City Office of Sustainability Services issues this report to update residents on the success of its efforts to reduce greenhouse gas emissions. Community emissions have been tracked annually since 2008. The City Council has identified sustainability as an important goal in its most recent strategic plan, and is committed to improving our quality of life through sustainability practices.

## Iowa City's community data

Includes all greenhouse gas emissions from activities within City limits

Iowa City Community CO<sub>2</sub>e Totals by Sector



2000 CO<sub>2</sub>e in metric tonnes: 1,329,144

2013 CO<sub>2</sub>e in metric tonnes: 1,298,620

## Community summary

From the years 2000 to 2013, Iowa City decreased annual emissions by 30,524 metric tonnes, the equivalent annual emissions of 6,426 passenger vehicles, or 2,785 homes. Emissions for this period have remained at or below baseline levels, except for 2008, an abnormal year due to flooding. The largest contributors to emissions remain the industrial and commercial sectors, contributing 30% and 23.9% respectively. During this period the city has added roughly 9,000 new citizens for a population growth of 15%. The two main power providers for Iowa City residents, MidAmerican and the UI Power Plant

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Prepared by the City of Iowa City  
Office of Sustainability Services  
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## What is greenhouse gas?

A greenhouse gas is a gas that absorbs infrared radiation, thereby trapping heat in the Earth's atmosphere and contributing to the greenhouse effect, which ultimately leads to global warming. A couple of examples are carbon dioxide and methane, among others. CO<sub>2</sub>e refers to carbon dioxide equivalent, which is the standardized unit which includes each different greenhouse gas that would create the same amount of warming to the atmosphere.

## What are the sources of greenhouse gases?

The most abundant greenhouse gas is carbon dioxide (CO<sub>2</sub>), and while there are natural occurrences that emit CO<sub>2</sub>, 87% of all carbon dioxide released into the atmosphere comes from humans burning fossil fuels. Greenhouse gases are also emitted into the atmosphere as a result of human activities but also through animal and plant respiration. By burning fossil fuels, cutting down forests, the upkeep of livestock, and various industrial processes, humans put harmful gases into the atmosphere. (What'sYourImpact.org).

## Why it's a concern

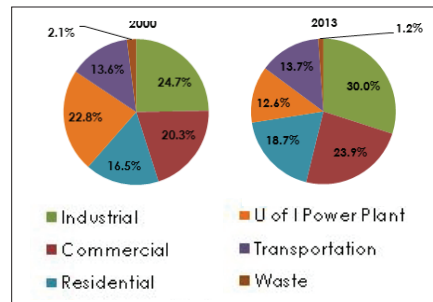
From the time the Industrial Revolution began, greenhouse gases have been increasing, and most of the increase has occurred in the past 50 years. Because of global warming, 2015 was the warmest year on record. Eleven of the hottest years have occurred since 1998. If these trends continue, scientists, government officials and others believe that the worst effects of global warming – extreme weather, rising sea levels, plant and animal extinctions, ocean acidification, major shifts in climate, and unprecedented social upheaval – will be inevitable.

## Community summary

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have both made strides in decreasing their emissions. MidAmerican has expanded their wind power so that in 2014 wind energy accounted for 37% of generation. In addition, the city has collaborated with the University of Iowa to obtain information about their power plant, which continues to burn oat hulls and is in the

CO<sub>2</sub>e (in metric tonnes) by Sector

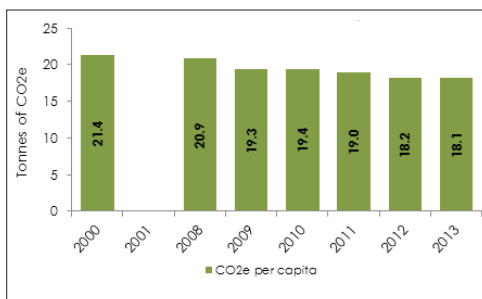


process of implementing a biomass fuels project in order to reach 40% renewable energy by the year 2020. Iowa City was proud to be the first city in Iowa to complete a community wide greenhouse gas inventory. Iowa City is the only city in Iowa to have six continuous years of emissions data and hopes to use this information to inform the public on local progress.

## Per capita data

Breakdown of greenhouse gas emissions per capita

Carbon Dioxide Emissions Per Capita



- Iowa City per capita greenhouse gas emissions is 18.1 as of 2013
- Average per capita greenhouse gas emissions in U.S. is 21 metric tonnes as of 2013.
- Sustainable level of greenhouse gas emissions is approximately 2 metric tonne per capita
- CO<sub>2</sub> emissions per capita have decreased 3.3 tonnes since 2000

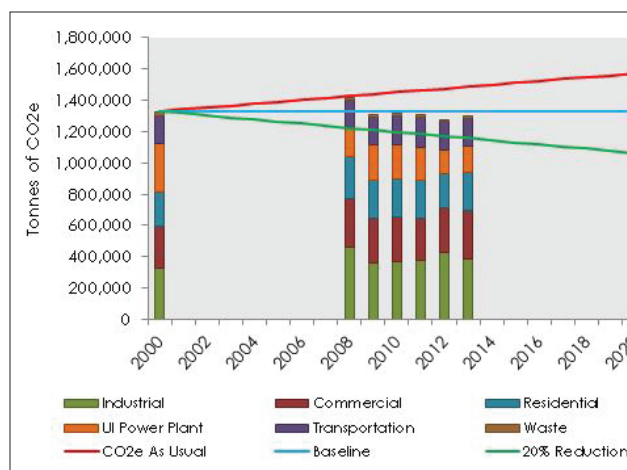
## Next steps

In February 2016, Iowa City Mayor Jim Throgmorton signed the Compact of Mayors to demonstrate the City's commitment toward reducing local greenhouse gas emissions, measuring community emissions, and setting data-based targets for the future. The City will also work to address the impacts of climate change, identify climate hazards, assess vulnerability, and develop a climate adaptation plan. The Compact has four stages that will take place over three years.

## Importance of moving forward

- The effects of global warming due to greenhouse gases (extreme weather, migration, increased flooding, and disease) are now widely accepted scientifically.
- The effects of climate change can be felt locally in years of flooding or drought. The flood of 2008 is an example of this. In addition, the years of 2001 and 2013 experienced a flood and a drought in the same year.
- Researchers and scientists at 39 Iowa colleges and universities have gathered 188 signatures on a statement warning that the effects of climate change are expected to increase.

Iowa City Community CO<sub>2</sub>e Totals by Sector



- America's 2015 Clean Power Plan calls for 32% reductions in CO<sub>2</sub> below 2005 levels by 2030, with action plans to be determined by states.

- Iowa City has been working with climatologists to predict the impacts of climate change specific to our area. These include warmer temperatures, specifically higher nighttime temperatures, increased precipitation, increased humidity, and more flat line winds.
- In order to decrease per capita CO<sub>2</sub> emissions from our current level of 18.1 tonnes to the sustainable 2 tonnes, continued efforts will be essential.

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