## *Is Permitting Required?*

Currently, permitting for GHGs is required for major sources (even though you are a small business, you still may be a major source). Do you have a PSD or Title V permit? If so, you may need a permit. The new permitting rule requires GHG sources to be subject if it is a new source with the potential to emit 100,000 tons/year or modified source with an increase of 75,000 tons/year of GHG pollutants (remember, this will be calculated using multipliers, as each pollutant is weighted differently). Even if you are not required to obtain a permit, you still may be required to report GHGs (see below).

## *Does Mandatory GHG Reporting Apply to Small Companies?*

Some small businesses are required to report GHGs. For example, companies in certain energy-intensive industries or heavy manufacturing sectors are required to report. Mandatory GHG reporting is required for any facility that emits 25,000 metric tons or more of $CO_2$ equivalent ($CO_2e$)/year. This number may include emissions from downstream suppliers of fossil fuels. Reporting is at the facility level, except for some suppliers that are required to report at the corporate level.

Remember that the trigger into the program of 25,000 metric tons of $CO_2e$ is based on your worst case scenario (called potential to emit), and is also a total of all source categories.

A simple way to remember this: Do you have combustion units of ***less than 30 mmBtu/hr (aggregated)*** with no other emission sources? You probably don't have to report! Combustion units include things like boilers, combustion turbines, engines, incinerators, and process heaters.

*Compliance Assistance programs in your state will be happy to help you to find out what your regulatory requirements are for climate change and all other environmental laws. That's what we are here for—and we want to help you!*

## *Resources*

**EPA Climate Change Applicability Tool**
http://www.epa.gov/climatechange/emissions/GHG-calculator/categories.html

**EPA Guide for Small Businesses**
http://www.epa.gov/climatechange/emissions/downloads/infosheets/smallbusinessguide.pdf

**The Climate Registry**
http://www.theclimateregistry.org/

**Climate Change State Resource Locator**
http://www.envcap.org/statetools/climate/index.cfm

**Primer on Climate Change Science (National Association of Clean Air Agencies, July 2011)**
http://www.4cleanair.org/Documents/NACAAClimateSciencePrimerpost.pdf

**EPA Climate Leaders Guide to Greenhouse Gas Management for Small Business & Low Emitters**
http://www.epa.gov/climateleaders/documents/resources/lowemitter_guidance.pdf

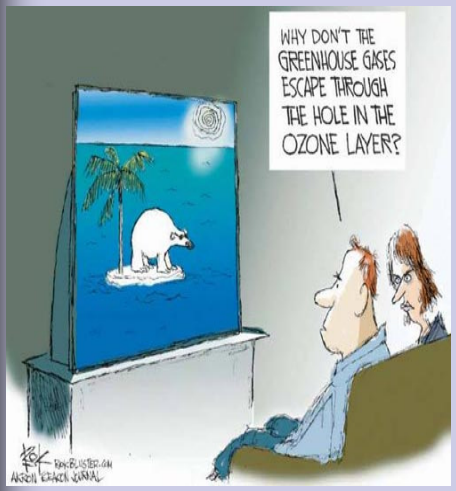
**EPA GreenChill Advanced Refrigeration Partnership**
http://www.epa.gov/ozone/partnerships/greenchill/index.html

**Climate Change Resources (Small Business Environmental Home Page)**
http://www.smallbiz-enviroweb.org/Resources/sustainableinfo/climatechangeresources.aspx

**Please contact your state program for more information:**
**http://www.smallbiz-enviroweb.org/Contacts/sbosbeap.aspx**

**For information about climate change rules, go to the New Rules-Climate Change page:**
**http://www.smallbiz-enviroweb.org/Compliance/newrules-climatechange.aspx**

# Pocket Guide to Climate Change for Small Business




***This guide will provide a quick overview of environmental requirements and energy efficiency tips to reduce greenhouse gases and potentially save money.***

# Climate Change: What Your Business Can Do to Reduce Greenhouse Gases

## What is Climate Change?

Climate change refers to long-term shifts in weather patterns. A region's climate results from complex interactions of elements including temperature, precipitation and winds and varies from region to region. Some regions become warmer and drier, while others become wetter and cooler. Extremes of temperature and moisture seem to be more prevalent now, leading to more severe weather events.

## What is Global Warming?

Global warming is the sustained increase in the global average surface temperature, and is different than climate change.

## What is the Greenhouse Effect?

The earth's temperature is produced by a natural occurrence called the greenhouse effect. Some of the sun's heat is trapped in the atmosphere by greenhouse gases (GHG) rather than escaping back into space. Industrial activities contribute to the production of natural and synthetic GHGs such as carbon dioxide, methane, nitrous oxide, fluorinated gases, particulate matter and ozone. Many of these gases can remain in the atmosphere for hundreds of years after being released, creating continuing and increasing complications for the earth's climate. Increasing temperature alters the climate and adversely affects human health and well-being.

## How are Greenhouse Gases Created?

The process of making energy available, such as the production, transport and combustion of fossil fuels (coal, oil, and natural gas), is the largest contributor to GHG emissions. Carbon dioxide accounts for the majority of the nation's GHG emissions and is primarily produced from transportation and the generation of electricity. Carbon dioxide is naturally occurring and can be absorbed and used by plants. However, the significant release of carbon dioxide from human activities is much more than earth's plants can absorb. Some of the excess carbon dioxide increases water acidity which adversely affects sensitive aquatic organisms.

## Low Cost—No Cost Alternatives to Reduce GHGs

- During the winter, set your thermostat 4° F cooler than normal.
- During the summer, set your thermostat 4° F higher than normal.
- Reduce the temperature on your hot water heater. A 10° F reduction in water temperature saves 3-5% in energy costs.
- Utilize video conferencing instead of traveling to meetings.
- Change lighting to more energy efficient bulbs.
- Create a virtually paperless office. Send reports, memos, newspapers, etc. digitally. Recycle the paper you do use.
- Turn off lights, computers and other office equipment when they're not in use.
- Green your coffee break by purchasing your employees reusable mugs instead of paper, plastic or Styrofoam™ cups.
- Involve your customers. They'll appreciate the chance to reduce their impact with less packaging and resource usage.

## Energy-Efficiency Tips for Industry

### Boilers

- Save money by making sure your schedules take account of occupancy and the weather. Check that controls are properly set for these factors.
- Make sure that burners, heat exchangers and primary plant equipment are adequately insulated and maintained to reduce energy consumption and costly equipment failure.
- Insulate hot and chilled water lines, steam and refrigerant lines, valves, fittings and other components to save energy.

### Compressors

- Find and fix air leaks. Leaks often waste 20-30% of compressor output and are significant sources of lost energy and dollars.
- Lower operating pressure if possible. A reduction of just 15 psi will save about 7% in energy costs.
- Maintain a good supply of cool air around the compressor to prevent overheating and unnecessary energy usage.
- Turn off compressors when air is not in demand, such as overnight, to minimize wasted energy. Even when off-loaded, compressors can consume up to 20-70% of their full load power.

**While many small businesses do not emit large amounts of GHGs, most can SAVE MONEY and reduce GHG emissions by implementing energy-saving measures.**

## Energy-Efficiency Tips for Industry (cont.)

### Motors

- Keep vehicle and equipment motors properly maintained. Motors that are not tuned run inefficiently and can add 5% or more to energy costs.
- Only purchase new equipment with high-efficiency motors to lower energy and operating costs.
- Use variable-speed drives. Variable-speed drives can reduce running costs by up to 30% when used with fans and pumps.

### Refrigeration

- Keep cold room doors closed.
- Check your door seals. A faulty door seal could increase power consumption by 11%.
- Ensure your system is at the right temperature. Just a few degrees lower than needed can raise costs by 4%.
- Keep condenser coils clean. Dirty condensers result in increased operating temperature, pressure, and energy usage (up to 26%).
- Ensure that internal lights in refrigerated spaces are switched off when not in use. This will save the energy consumed by the light itself as well as energy used to remove excess heat.
- Don't overcharge refrigeration systems. Leaking refrigerant can increase energy costs by 10% or more.

**Contact your assistance provider:**
**http://www.smallbiz-enviroweb.org/Contacts/sbosbeap.aspx**