



# Embarking on a Greenhouse Gas Reduction Strategy

## What Does it Mean?

This brochure is intended to provide a broad overview of the steps to reducing greenhouse gas emissions. The most widely accepted protocol for defining and calculating greenhouse gas emissions is the World Resources Institute GHG Protocol ([wri.org](http://wri.org)). The information presented here is derived from the WRI report, "Hot Climate, Cool Commerce: A Service Sector Guide to Greenhouse Gas Management."

### Inventory your greenhouse gas emissions

#### 1. Define the boundaries of your effort

Are you going to consider the emissions of the entire company or a particular facility? Will you include any subsidiaries? How will you handle emissions related to facilities that you lease versus own?

#### 2. Define the scope of the inventory

Scope 1: Emissions you directly control (**emitted from owned sources**) – your company owns the emissions source like company-owned vehicles or any on-site power generation

Scope 2: Emissions that result from company activities occurring within your fence line but that your company does not own (**purchased energy use**)

Scope 3: Emission that your company's activities influence (**everything else**) – contract product shipping services, employee commute travel, business travel, energy consumed from the use of products sold, emissions from the materials purchased to create the product or service your company sells

Companies should think carefully about the scope of their inventory. For many, particularly service-oriented companies, Scope 3 activities may be the largest source of emissions related to your organization but also can be the most difficult to reduce due to the extent of control.

Seattle City Light is a carbon neutral energy source because they have reduced their greenhouse gas emissions to the extent practical and the City of Seattle has offset any remaining emissions by making investments that will reduce emissions elsewhere. However, City Light's ability to maintain their carbon neutral status and keep rates low depends on customers' on-going energy efficiency efforts. Therefore, we suggest you consider SCL electricity use in your inventory and reduction strategies.

#### 3. Select the baseline year

The baseline year is the year that your reduction progress will be measured against over time. Data availability can impact the year you chose. It is important to select a base year for which you can collect accurate data. Some GHG programs require a specific baseline year be used.

#### 4. Collect data

Collect data for each emissions source that you have identified.

4a. First, collect “activity data” for each emissions source you identified. Activity data are the units of activity that will use to quantify the emissions from that activity, for example gallons of fuel used, air miles traveled, kilowatt hours of electricity used, therms of natural gas used.

The Seattle Climate Partnership has developed a simplified GhG inventory tool called the Seattle Carbon Inventory Tool (SCIT), which helps business calculate and benchmark their existing emissions. This tool provides information on how to obtain data for the inventory, choose the proper emission factors and provides case studies and helpful hints on reduction strategies. Those with more complex operations may need to use a different tool or supplement the results from this simple tool.

4b. Then, apply an “emissions factor” to the activity data; for example, pounds of CO<sub>2</sub> per kilowatt hour of electricity used, kilograms of CO<sub>2</sub> per air mile traveled. While there are 6 main greenhouse gas emissions, emissions factors typically convert activities into CO<sub>2</sub> equivalents. There are many tools available to calculate emissions from activity data.

### Set a reduction target

It is helpful to establish interim and long-term emissions reduction targets. Reducing greenhouse gas emissions is a long-term and on-going challenge. Creating bold, forward-looking targets can help your organization keep moving toward this challenge and interim goals will help you to understand your progress and challenges and celebrate successes along the way.

#### Establishing Targets

There are two target types “absolute” and “intensity” targets. Absolute targets are total amounts of GHG reductions you intend to achieve. Intensity targets are normalized to a business activity like units produced or number of employees. There are advantages and disadvantages to each type of target. The need is to reduce total emissions worldwide which makes absolute targets very important, however if your company is rapidly growing and capturing significantly increasing market share, an intensity target may better reflect reduction opportunities and progress.

A specific inventory protocol, third party verification report, goal timeframe, or a specific baseline year may be required if you are planning to participate in a program such as the EPA Climate Leaders Program [www.epa.gov/stateply/](http://www.epa.gov/stateply/) or the World Wildlife Fund Climate Savers Program [www.worldwildlife.org/climate/projects/climateSavers.cfm](http://www.worldwildlife.org/climate/projects/climateSavers.cfm) or if you are planning to trade emissions on the Chicago Climate Exchange <http://www.chicagoclimatex.com/>.

## Implement reduction strategies

Now that you have identified the most significant sources of greenhouse gas emissions in your inventory, it is time to determine what steps you can take to reduce them. Generally speaking, many of the most significant emissions sources for Seattle area businesses include:

| <b>EMISSIONS SOURCE</b>  | <b>SAMPLE REDUCTION STRATEGIES</b>  |
|--|---|
| <b>ENERGY</b><br>(electricity, natural gas, steam)                   |   |
| Building lighting and HVAC systems                                   | Install energy efficient lighting, controls, and occupancy sensors<br>Install high efficiency HVAC equipment and controls                                       |
| Office electronics   | Use ENERGY STAR and 80 Plus power supply computers  |
| Industrial process energy and hot water use                          | Improve motor efficiency; install efficient pumping systems and controls<br>Implement water reuse systems in water cooled equipment                             |
| <b>TRANSPORTATION</b>  |   |
| Materials, goods and service delivery<br>(owned and contract fleets) | Use alternative-fueled or hybrid vehicles; improve delivery route efficiency<br>Require contractors to use a bio-diesel blend fuel                              |
| Construction or other off-road vehicles                              | Use bio-diesel blend fuel   |
| Employee commute trips   | Provide transit pass subsidies, bike storage and shower facilities<br>Offer flex schedules or telework options  |
| Business travel  | Use virtual meeting technologies to reduce need for air travel  |
| <b>MATERIALS</b>   |   |
| Cement   | Use a slag blended cement   |
| Paper  | Set defaults on printers and copies to two-sided<br>Train employees on electronic file storage  |
| <b>WASTE</b>   |   |
| Solid waste  | Assess materials reuse and reclaim options<br>Provide easily accessible recyclable material collection facilities<br>Encourage use of durable cups and utensils |
| Food and Green Waste   | Implement a food recovery program and compost non-recoverable food and landscape wastes   |

Strategies to reduce greenhouse gas emissions are typically operational improvements that save money, create brand value, inspire employees, and garner trust in the communities in which you operate. The [Seattle Climate Partnership Resource Guide](#) is available to help you identify the technical assistance and financial incentives available from your local utilities and government agencies to help reduce the cost of implementing reduction strategies.

## Engage Employees

Many companies have found that the most effective and innovative solutions to greenhouse gas emissions reductions come from their employees. Engaging employees in the process will inspire such innovative ideas and may also inspire employee loyalty and retention as the company is demonstrating commitment to a shared value.

## Monitor and Report Results

Tracking the progress of your emission reduction strategies over time will help you to refine your implementation approach and celebrate successes. Reporting results will allow you to tell your story to employees, customers, and the communities in which you operate, that GHG reductions are good for the community, employees, customers, and the bottom line. If you are participating in a program like the EPA Climate Leaders or the Carbon Disclosure Project ([www.cdproject.net](http://www.cdproject.net)), tracking and reporting are required.

## Join the Seattle Climate Partnership

Seattle-area employers who join the [Seattle Climate Partnership](#) have committed to take actions to reduce their own greenhouse gas emissions and help support efforts in the broader community to reduce emissions. In exchange for making and keeping, these commitments, Partners receive technical assistance including the resources and tools mentioned here as well as workshops and best practice studies, facilitated access to utility assistance and financial incentive programs, and recognition for their efforts.

## Utility Technical and Financial Assistance

Assistance in implementing reduction strategies is available from your local utilities:

- **Seattle City Light** offers free facility assessments, financial incentives covering up to 70% of the cost of installing energy-efficient equipment and controls for lighting, HVAC and industrial processes. A lighting design lab will provide consultation for selection of more energy efficient lighting technology and controls. Small businesses call 206-684-3800; medium and large businesses call 206-684-3254.  
<http://www.seattle.gov/light/conserve/business>
- **Puget Sound Energy** offers technical assistance, on-line tools, and financial incentives including rebates and grants. For general information call 1-888-225-5773.  
[http://www.pse.com/solutions/ForBusiness\\_EfficiencyPrograms.aspx](http://www.pse.com/solutions/ForBusiness_EfficiencyPrograms.aspx)
- **The Saving Water Partnership** offers incentives and rebates to businesses who switch to efficient refrigeration, hot water appliances (e.g. food steamers, commercial clothes washers etc.), and process water improvements for up to 50% of upgrade cost. <http://www.savingwater.org/rebates.htm> or 206-684-5883
- **Seattle Public Utilities' Resource Venture** program to receive free assistance in creating and implementing a comprehensive recycling program.  
[www.resourceventure.org](http://www.resourceventure.org) or call 206-343-8505