

**TO:** Mayor Marchione and City Council

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**SUBJECT: STAFF REPORT: CARBON FOOTPRINTING – APRIL UPDATE**

The purpose of this report is to update the Council on staff’s work on carbon footprinting and to set the stage for a subsequent study session.

**BACKGROUND**

Staff gave a summary briefing to the City Council on January 4, 2011, regarding 2008 and 2009 baseline carbon footprinting findings for City operations. This included data on greenhouse gas emissions, energy consumption and cost, and fuel consumption and cost. This information sets the foundation for establishing greenhouse gas emissions reduction targets, strategies for meeting the targets, and metrics for measurement of target success. This work represents the first step in developing a Climate Action Plan, which is a roadmap to reduce global warming pollution.

As a refresher, a summary of the findings is identified in the following table:

<b>Item</b>	<b>2008</b>	<b>2009</b>	<b>Net Change</b>	<b>Net Increase</b>
Energy Consumption (MMBtu)	99,711	106,389	+6,678	6.7 percent
Energy Cost	\$1,371,283	\$1,674,943	+\$303,660	22.1 percent
Greenhouse Gas Emissions (eCO <sub>2</sub> ) (Tons)	9,596.1	10,083.8	+487.7	5.1 percent
Fuel Consumption (gallons)	141,089.80	170,652.30	+29,562.5	21 percent
Fuel Cost	\$383,079.95	\$516,106.78	+133,026.83	34.7 percent

Staff has been working on baseline carbon footprinting at a community level and anticipates having this information completed soon. Accessibility to this data is more complex and time-consuming than City operational data. This community information is an essential part of identifying the other “half” of the equation for establishing greenhouse gas emissions reduction targets and a Climate Action Plan.

**GREENHOUSE GAS EMISSIONS REDUCTION TARGETS**

The following table highlights greenhouse gas emission reduction goals established by national, state, and regional organizations. This information provides the supporting framework to help Redmond determine its greenhouse gas emissions reduction targets. These targets will further advance the City’s green agenda and Sustainability Principles.

<b>Commitments</b>	<b>Reduction Target/Goal</b>	<b>Effect</b>
Mayors Climate Protection Agreement (National)	Seven percent below 1990 levels by 2012	Signatory, but have not “backcasted” to 1990. Could do a crude estimation.
State of Washington	<ul style="list-style-type: none"> <li>▪ 1990 levels by 2020</li> <li>▪ 25 percent below 1990 levels by 2035</li> <li>▪ 50 percent below 1990 levels by 2050</li> </ul>	State-wide reduction goals; regional allocations have not been established
Vision 2040 and Transportation 2040 (Puget Sound Regional Council)	Commit to comply with state initiatives and direction regarding reduction of greenhouse gases.	Establish policies in both the Comprehensive Plan and Transportation Master Plan Updates.

Note that these greenhouse gas emission reduction targets are the same for both City operations and the greater community. They are essential in order to benchmark the success of City and community efforts. In addition, they will provide an adaptive management tool that can adjust to dynamic circumstances and measure successes/failures.

Staff’s recommended approach is for the City Council to discuss and collaboratively agree upon city operations and community greenhouse gas emissions reduction targets with staff’s input at a future study session. To assist in this deliberation, below is a table highlighting information from other local jurisdictions regarding emission reduction targets.

<b>Jurisdiction</b>	<b>Mayor’s Climate Protection Agreement</b>	<b>Reduction Targets Adopted</b>
Kirkland	Yes	<ul style="list-style-type: none"> <li>▪ 20 percent below 2005 levels by 2020 (primary)</li> <li>▪ 10 percent below 2005 levels by 2012 (interim)</li> <li>▪ 80 percent below 2005 levels by 2050 (long-term)</li> </ul>
Bellevue	Yes	7 percent below 1990 levels by 2012
Issaquah	Yes	80 percent of 2007 levels by 2050
Sammamish	Yes	3 percent below 2007 by 2012
Mercer Island	Yes	80 percent 2007 levels by 2050
Renton	Yes	No
Bothell	Yes	7 percent below 1990 levels by 2012
Woodinville	No	No
King County	N/A	80 percent below 2007 levels by 2050

## **EMISSIONS REDUCTION STRATEGIES**

There are numerous greenhouse gas emissions reduction strategies for both city operations and the community that can be utilized to help attain these standards. They range from investing in energy efficiency and renewable sources of power to effecting land use regulations and green building standards. Strategies include education, maintaining healthy urban forests, increasing fuel efficiency in, and exploring alternative fuel sources for, municipal fleets, promoting transportation options, green purchasing strategies, and decreasing trash generation. These strategies are just a few of many that help promote greenhouse gas emissions reductions on both the city operational and community-wide scale. Detailed strategies (both current and proposed) and their effectiveness will be developed as part of the City's Climate Action Plan. This will include not only City operational efforts, but also community efforts.

Some city efforts completed or currently underway include installing energy retrofits to municipal buildings, replacement of traffic signals with LED bulbs, pilot neighborhood for replacement of city street lights with LED bulbs, and purchase of hybrid vehicles. The success of these efforts should be seen in future baseline evaluation. Some community efforts completed or underway include expansion of city recycling program, commute trip reduction programs and R-Trip, Impact Redmond website, Redmond Eco-Fair, home energy reports, outreach to Sustainable Redmond, and electric vehicle infrastructure deployment.

One major City effort currently underway is moving towards building green. The Green Buildings/Green Lifestyles budget offer in the adopted 2011/2012 City operational budget includes the following performance measures:

- Through voluntary incentive programs by the end of 2012, 50 percent of all new non-residential construction and major renovations (5,000 square feet gross floor area or greater) and all major public projects will be constructed to LEED Gold (or equivalent) standards. By 2012, 25 percent of all new residential construction will be constructed to King County Built Green 4-Star (or equivalent) standards.
- After 2012 achieve 100 percent new non-residential construction and major renovations (5,000 square feet gross floor area and greater) and all major public projects constructed to LEED Gold (or equivalent) standards. After 2012, achieve 100 percent of new residential construction constructed to KC Built Green 4-Star (or equivalent) standards.

This is being addressed through a two-phased multi-faceted approach. It is important to stress that this program is outcome-based versus label-based. Phase I consists of strategies to incent developers to build green. Many developers already build green, as it is steadily becoming the "normal" development approach. In the US, LEED or Energy Star buildings charge 3 percent higher for rent, have greater occupancy rates, and sell for 13 percent more than traditional non-green buildings.

The City already has an adopted “Green Infrastructure Code” for residential development and an expedited single family building permit review process. Staff is expanding both concepts to include nonresidential and mixed-used development. The proposed green infrastructure code changes are, in part, in response to the Code Rewrite Commission’s early suggestions. In fact, this was a parking lot item to be addressed outside of the code rewrite process. Additionally, staff has set up expedited green building permit review for these projects, modeled after the current expedited program for single family residences. These two approaches, coupled with the potential for a pilot project to be permitted through an adopted ordinance, provide various ways to help incent developers to build green. In addition, a recognition program will be established to highlight successful green buildings. This establishes the framework for transitioning to a mandated green building approach as outlined in the benchmarks for the adopted budget offer (Phase II).

Phase II is the long-term solution. This will involve significant public educational and outreach efforts along with staff training. Data is being collected regarding certification costs (although mandating certification is not being suggested) and initial developer expenditure to building green prior to realizing cost-savings over the lifetime of the project. This latter item reflects a paradigm shift in looking at sustainable projects. It is not just a matter of initial outlay of costs, but rather looking at development life cycles.

This information on shifting toward building green has been included to show just one example of advancing the City’s sustainability agenda and reducing future greenhouse gas emissions. This topic will be subject to much further review and discussion by staff, the Planning Commission, and the City Council.

#### **NEXT STEPS**

Staff recommends the City Council set a study session to review emission reduction targets. This target-setting step will then enable staff to analyze and provide options the City could implement to achieve the targets.