CITY OF SPRINGFIELD
GREENHOUSE GAS INVENTORY

2010

Greenhouse Gas Inventory

City Operations

Scopes I, II and III

Springfield, Oregon

THIS PAGE INTENTIONALLY LEFT BLANK

CITY OF SPRINGFIELD

GREENHOUSE GAS INVENTORY
LOCAL GOVERNMENT OPERATIONS FOR 2010
OCTOBER 2012

CONTENTS

INTRODUCTION AND POLICY CONTEXT

The Intergovernmental Panel on Climate Change, the United Nations body that regularly convenes climate scientists, has identified human activity as the primary cause of the climate change that has occurred over the past few decades and quickened in recent years. Consensus statements from the IPCC suggest that human-caused emissions must be reduced significantly – perhaps more than 50% globally, and by 90% in wealthier nations that are the largest emitters – by mid-century in order to avoid the worst potential climate impacts on human economies.

Many individual corporations, government agencies, universities, non-profits and even individuals have proactively sought to take on this challenge. Emissions from City of Springfield operations can be significant so Springfield has a direct impact through emissions reductions. The City of Springfield also has a role in educating policy makers and citizens. By measuring emissions from Springfield's operations, this inventory is a step toward taking action, managing risk and leading the way forward.

There has recently been much regulatory action regarding GHG emissions, as well as energy and transportation-related legislation and policy related to climate action. Action is taking place at the international, national, regional, state and local levels as shown in the table below.

Figure 1: Overview of Policy Activity Related to Greenhouse Gas Emissions Management

International

The world's leaders met in Copenhagen in December 2009 (and again in Cancun, Mexico in 2010) to negotiate the next international climate agreement to follow the Kyoto Protocol, which is set to expire in 2012. While neither Summit resulted in any legally binding emissions reductions targets, the Copenhagen Accord, which was drafted by the United States, China, Brazil, India and South Africa, calls for nations to take actions to keep increases in global temperatures below two degrees Celsius.

Federal

In 2007, the Supreme Court unanimously ruled that the US Environmental Protection Agency (EPA) has the authority to regulate greenhouse gas emissions under the Clean Air Act. The EPA has issued mandatory reporting guidelines for large emitters. Other energy and economic stimulus legislation recently passed by the federal government supports renewable energy development and other climate-related initiatives.

Regional

The three regional initiatives – Western Climate Initiative (WCI), Midwest Greenhouse Gas Accord (MGGA), and Regional Greenhouse Gas Initiative (RGGI) – continue to move forward and prepare for implementation. RGGI has been underway since 2008 regulating emissions from utilities providers.

State

In Oregon, recent legislation includes climate and energy bills targeting fuels, solar power opportunities, and GHG emissions from land use and transportation. A number of statewide efforts are facilitating the widespread deployment of electric vehicles. Dozens of states are taking these and similar actions.

Local

At the local level, over 1,000 cities across the country have signed the US Mayors Climate Protection Agreement, including 16 in Oregon. While the City of Springfield has not yet signed this agreement, it believes that conducting an inventory of emissions is a good first step in managing this problem over time. Most communities are still at early stages, so we hope Springfield's work here will provide encouragement, momentum and a good example to other communities elsewhere.

CURRENT RELATED REGULATORY REQUIREMENTS OF THE CITY OF SPRINGFIELD

Mandatory Reporting in Oregon

Oregon Department of Environmental Quality will require GHG reporting for a wide range of entities, beginning in 2010 for the 2009 calendar year. The threshold for reporting is currently set at 2,500 MT CO_2e annually. In general, the sources and entities required to report are holders of Title V air pollution permits or Air Contaminant Discharge Permits (ACDP), with at least one discrete permitted source emitting above the threshold.

For more information on Oregon's rules, visit DEQ's GHG reporting page:
http://www.deq.state.or.us/aq/climate/reporting.htm

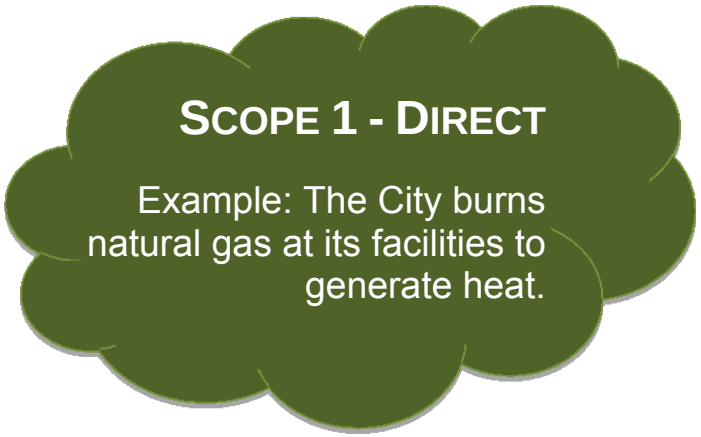
As currently articulated, these requirements will not require reporting from many organizations that have aggregate emissions from multiple sources (building energy, fleet fuel, etc.) that together exceed the reporting threshold. Municipal governments and other facilities organizations likely fall into this category of non-reporters. As a result, only a few Oregon municipalities will have regulatory reporting burdens, but many are likely to have total emissions from local government operations that well exceed 2,500 MT CO_2e annually.

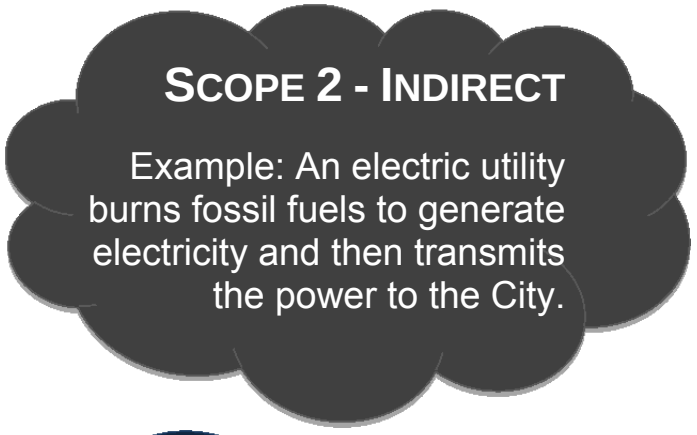
Mandatory Reporting at the Federal Level

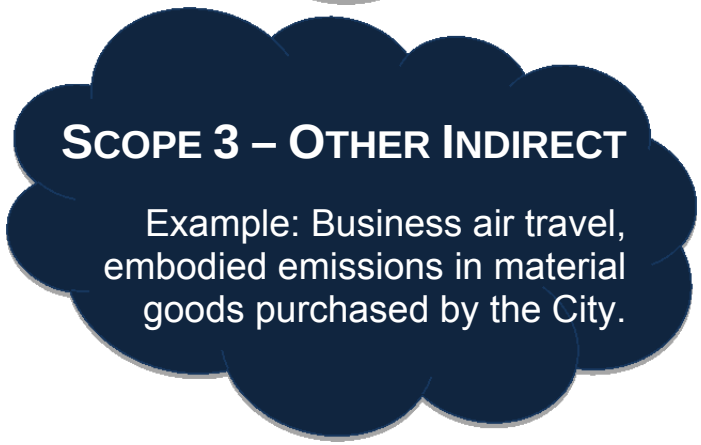
US EPA has also issued mandatory reporting guidelines, finalized in September 2009:
http://www.epa.gov/climatechange/emissions/ghgrulemaking.html
The threshold is 25,000 MT CO_2e per year.

It is possible that federal climate legislation will require participation by some large entities in carbon trading and auctions for emissions allowances. Given the current structure of proposed legislation, very few Oregon entities – and probably no government agencies – will have such responsibilities.

THIS PAGE INTENTIONALLY LEFT BLANK







BOUNDARIES

In many GHG inventory protocols, emissions sources and activities are classified as either producing direct or indirect GHG emissions. Direct emissions are those that stem from sources owned or controlled by a particular organization. Indirect emissions occur because of the organization's actions, but the direct source of emissions is controlled by a separate entity.

To distinguish direct from indirect emissions sources, three "scopes" are defined for traditional GHG accounting and reporting purposes (WRI, The Greenhouse Gas Protocol, p. 25).

Scope 1 – Direct sources of GHG emissions that originate from equipment and facilities owned or operated by the City of Springfield

Scope 2 – Indirect GHG emissions from purchased electricity, heat or steam.

Scope 3 – All other indirect sources of GHG emissions that may result from the activities of the City but occur from sources owned or controlled by another company or entity, such as: business air travel; embodied emissions in material goods purchased by the City; emissions from landfilled solid waste; and the commuting habits of City employees.

Scope 1 (direct) and Scope 2 (indirect) emissions must be reported for most protocols and registries. Scope 3 emissions are indirect and usually considered optional when reporting emissions, but serve to clarify an organization's entire carbon footprint and illuminate the potential regulatory and financial risks an institution may face due to its carbon footprint. Figure 2 illustrates the three scopes of emissions.

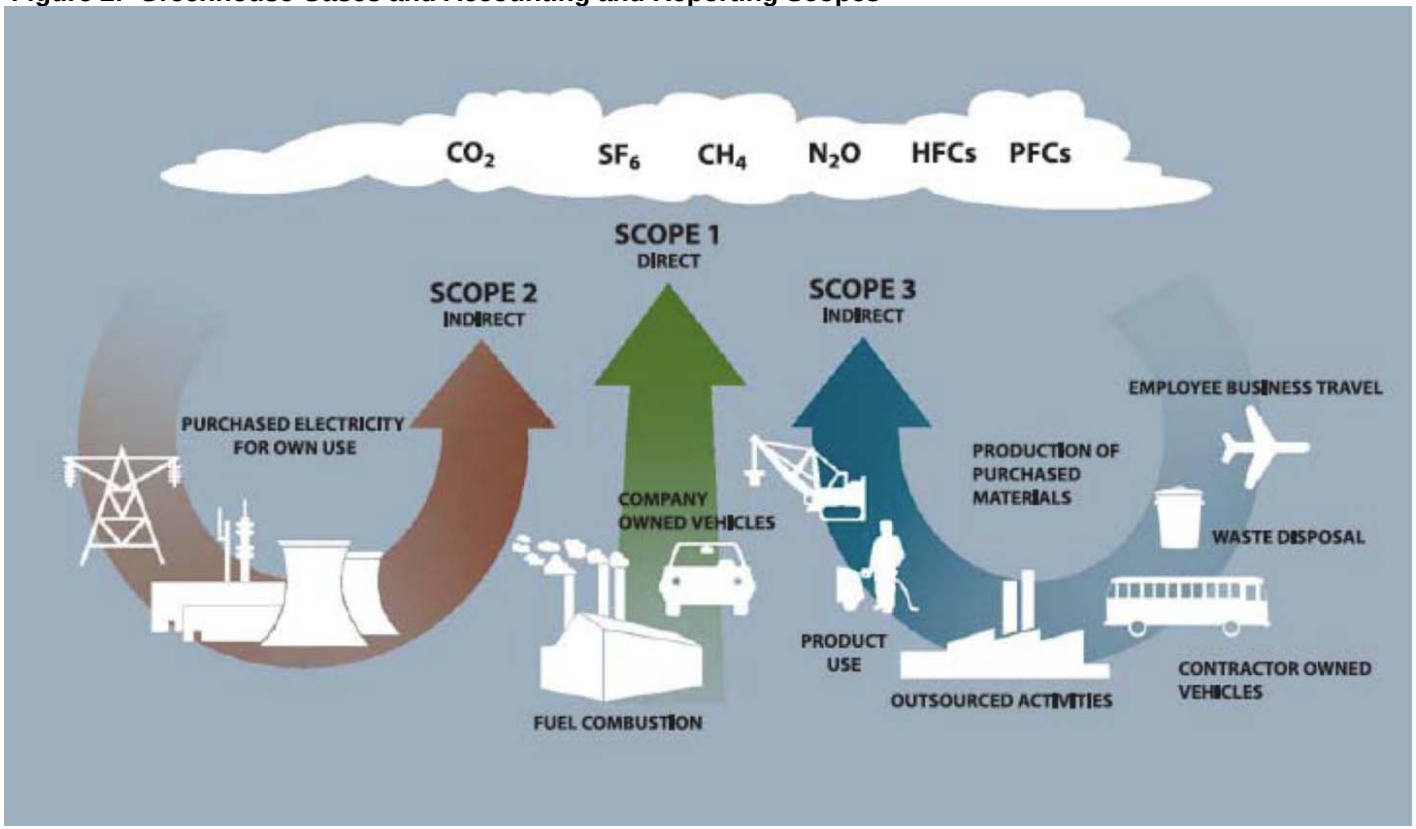
Source: WRI/WBCSD Greenhouse Gas Protocol, Corporate Accounting and Reporting Standard (Revised Edition), Chapter 4.

When a municipality decides to conduct a greenhouse gas inventory, there are two different types of inventories to consider: a local government operations inventory (such as this one) or a community inventory.

A *local government operations inventory* draws its boundaries around activities necessary for the city government to fulfill its mission, even though all those activities are on behalf of the citizens and businesses that live and work in the community.

A *community inventory* draws its boundaries around a geographic location and includes all the activities and emissions sources needed to serve that area including government, citizen and business activities. Therefore, a local government operations inventory would be one component of a greater community-wide inventory.

Figure 2: Greenhouse Gases and Accounting and Reporting Scopes



OVERVIEW OF RESULTS

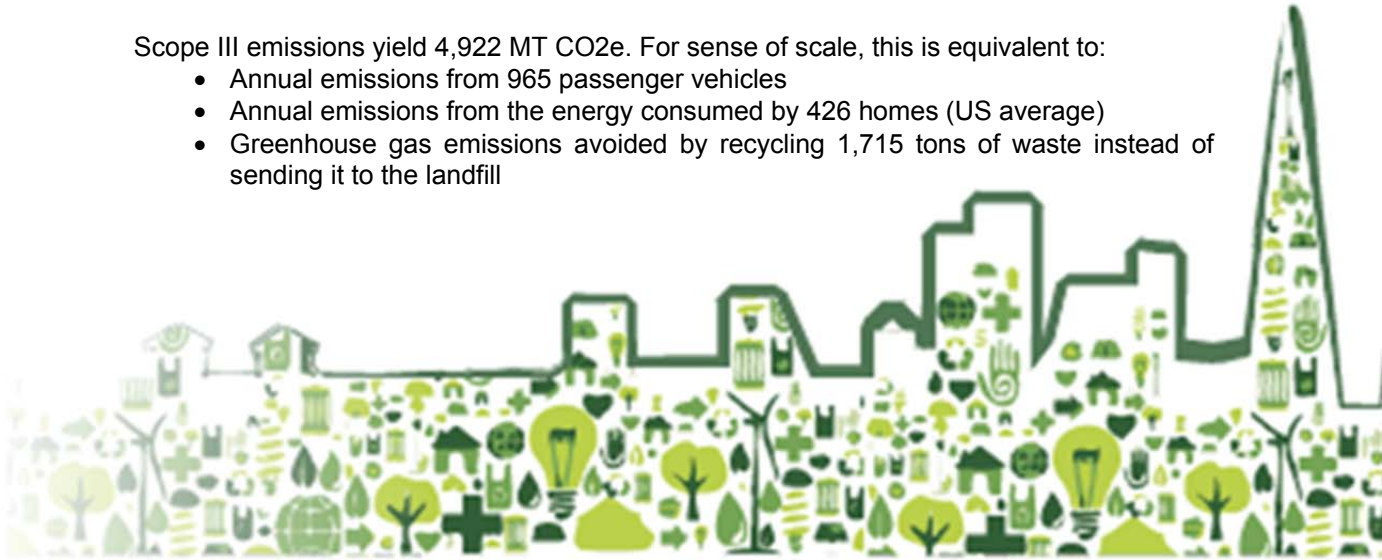
The City of Springfield's emissions from fuel and power use by buildings and vehicles are 3,368 MT CO2e, described below as Scope 1 and Scope 2 (as defined by the World Resources Institute). In addition, this inventory identified 4,922 MT CO_2e of other emissions from mission-critical activities related to Springfield's operations but outside of its direct control (Scope 3).

Scopes I, and II yield 3,368 MT CO2e. For sense of scale, this is equivalent to[1]:

- Annual emissions from 660 passenger vehicles
- Annual emissions from the energy consumed by 292 homes (US average)
- Greenhouse gas emissions avoided by recycling 1,174 tons of waste instead of sending it to the landfill

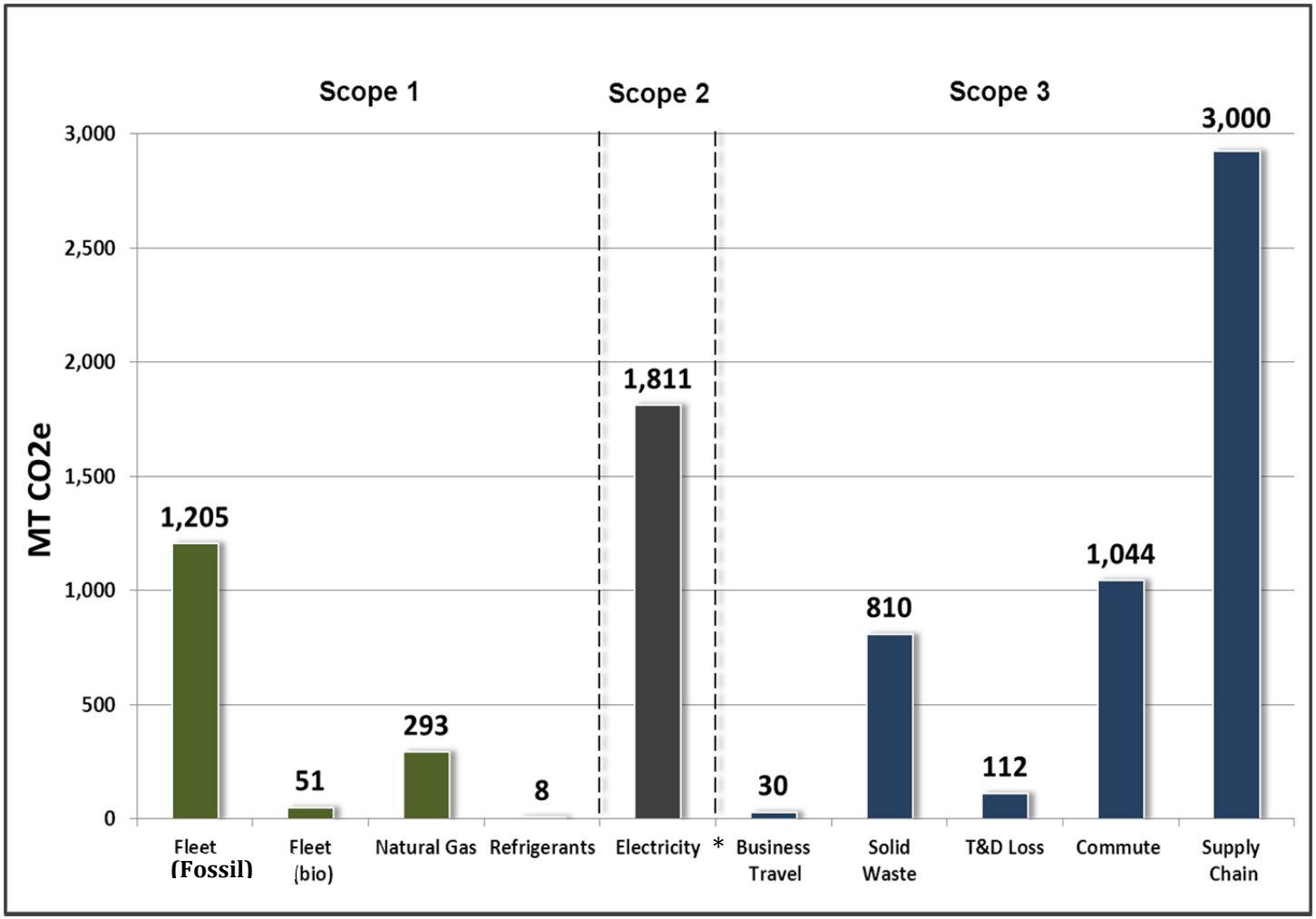
Scope III emissions yield 4,922 MT CO2e. For sense of scale, this is equivalent to:

- Annual emissions from 965 passenger vehicles
- Annual emissions from the energy consumed by 426 homes (US average)
- Greenhouse gas emissions avoided by recycling 1,715 tons of waste instead of sending it to the landfill



[1] EPA equivalency calculator: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Figure 3: City of Springfield's Greenhouse Gas Emissions from Local Government Operations (2010)



(The inventory was carried out according to high-consensus protocols and tools, and in accordance with the guidelines of Oregon Department of Environmental Quality. See Methods below for more detail.)

Figure 4 describes the emissions sources for each category in all three scopes. For perspective, the City of Springfield employed 411 staff (not full-time equivalent) in 2010. Additionally, it should be noted that the parks district (Willamalane Park and Recreation District) is a separate entity from the City and therefore is not represented in this GHG inventory.

Figure 4: Description of Springfield's Greenhouse Gas Emissions Categories, 2010

WRI Scope	Emissions Category	MT CO_2e	Description
Scope 1 (Direct Emissions)	Fleet	1256	The City of Springfield owns 224 fleet vehicles. Seventy-seven of them can be classified as sedans, while 76 are sport utility vehicles or light trucks. The City also owns 19 vans and 6 motorcycles. The remaining 46 vehicles are considered heavy duty equipment (construction equipment, fire trucks, etc.) In 2010, the City's fleet vehicles consumed 80,139 gallons of gasoline, 8,904 gallons of ethanol, and 47,049 gallons of ultra-low sulfur diesel.
	Natural gas	1,078	The City uses 55,263 therms of natural gas in 5 facilities for space and water heating. Seventy-nine percent of this natural gas is used at the Springfield Justice Center and Jail for building and water heating.
	Other fuels	0	N/A
	Refrigerants	9	The City lost 5 pounds of HCFC-22 and 7.8 pounds of R-134a from its HVAC systems in 2010. HCFC-22 has a global warming potential (GWP) of 1,700 and R-134a has a GWP of 1,300.
Scope 2 (Indirect Emissions)	Electricity	1,811	The City of Springfield used 4,714,110 kWh of electricity in its 18 facilities. Twelve percent of this electricity was used for traffic signals and street lights. The emissions shown in this table were calculated using the Regional eGRID 2010 version 1.1 data year 2007 emissions factor for the Northwest Power Pool of 858 pounds of CO2 per MWh. For a sensitivity analysis showing how this compares with the utility specific emissions factor for the Springfield Utility Board, please see section X below.

WRI Scope	Emissions Category	MT CO_2e	Description
Scope 3 (Indirect Emissions)	Business travel	30	This category includes emissions from: • 44,315 miles of air travel for business purposes… • approximately 450 miles of rail travel for business purposes… • 394 miles driven in rental vehicles used for business travel • 10,771 miles driven in employee-owned vehicles used for business travel
	Solid waste	810	Solid waste emissions were calculated based on the weight of the total volume of each container collected and disposed of as reported by Sanipac, the City's waste hauler.
	Commute	~1,044	Emissions for this category were calculated based on data from a volunteer survey asking staff to report their commuting methods and distances.
	T & D Losses	112	Transmission and distribution (T&D) losses from electricity occur as electricity travels from the point of generation to the point of consumption. They are correlated with electricity consumption but are typically omitted in GHG inventories. This figure assumes slightly more than 6% T&D losses for the US grid.
	Natural Gas (Leased)	0	Per the Climate Registry, fuel consumed in leased spaces where the natural gas is not individually metered is considered a Scope 3 emissions source. The City of Springfield does not currently utilize natural gas in any leased spaces therefore there are no related emissions to report.
	Embodied emissions in purchased goods and services	~2,926	In 2010, the City spent over $12.4 million on these purchased goods and services. The emissions from these goods were calculated based on costs of products and services not accounted for elsewhere in this inventory.

METHODS: DATA, PROTOCOLS, AND SENSITIVITY ANALYSIS

This inventory follows the Local Government Operations Protocol, which provides the highest-consensus guidelines for minimum reporting scope and was developed jointly by The Climate Registry and other organizations[2]. However, the protocol only requires the reporting of emissions in Scopes 1 and 2 as defined by the World Resources Institute. Therefore, this inventory has gone further to include several shared emissions categories from Scope 3. This use of additional high-quality public-domain tools to estimate Scope 3 emissions makes this inventory more state-of-the-art than inventories focused only on mandatory or bare-minimum boundaries. This more integrated and holistic approach paints a more accurate portrait of total emissions associated with Springfield's way of doing business.

All emissions are reported in metric tons of carbon-dioxide equivalent (MT CO_2e). The analysis attempts to cover all six "Kyoto gases" including: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6) and the groups of high global warming potential (GWP) gases, perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs). As the City of Springfield does not use PFCs or SF_6, these gases are not included here. Overwhelmingly, the direct and indirect CO_2-equivalent emissions are CO_2 from combustion of fossil fuels.

This section is designed to describe where the data was collected and the basic methodology, assumptions and level of estimation/accuracy for each emissions source. The analysis drew on high-consensus public-domain tools for emissions factors and methods. Emissions from some sources (such as natural gas consumption) were based on highly accurate data and accepted emissions factors. Emissions from other sources (such as employee commute) were estimated by combining available data with careful assumptions and sensitivity analyses. Still others (such as embodied emissions in purchased goods and services) were calculated using estimated data and emissions factors based on averages for the U.S. economy as a whole.

[2] The Local Government Operations (LGO) Protocol was developed as a collaboration of The Climate Registry (TCR), the California Air Resources Board (CARB), the California Climate Action Registry (CCAR, now the Climate Action Reserve), and ICLEI Local Governments for Sustainability. The LGO Protocol follows the same format as The Climate Registry's General Reporting Protocol (GRP).

THIS PAGE INTENTIONALLY LEFT BLANK

SCOPE 1 EMISSIONS

Fleet

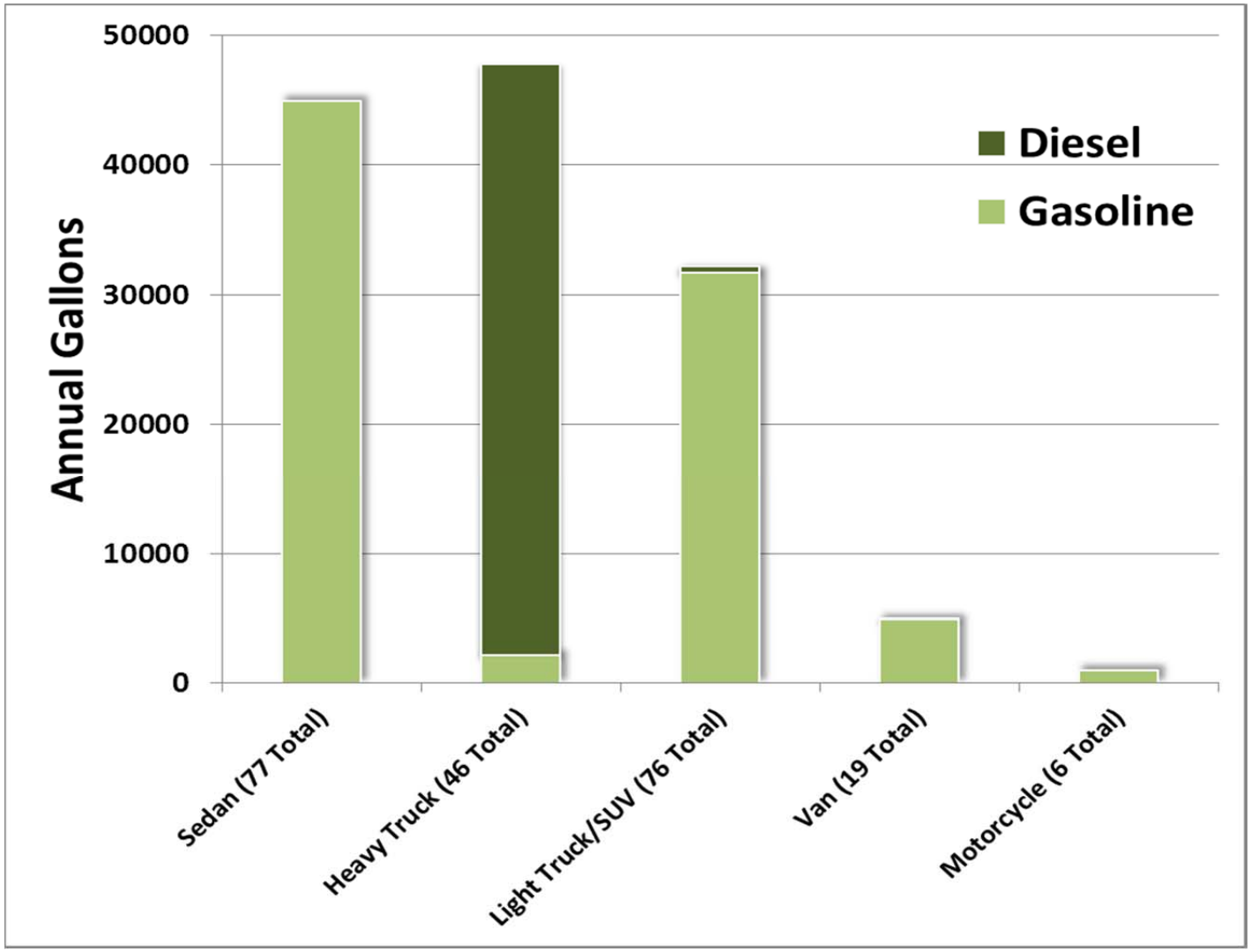
GHG emissions from City-owned vehicles were calculated based on the total gallons of fuel types purchased from the City managed fuel facility per City owned vehicle. The City fleet data included vehicle types such as sedans and light trucks utilized by City Hall and Maintenance staff as well as heavy trucks and equipment used in infrastructure maintenance and improvements. The fleet data also included vehicles assigned to both the Police and Fire Departments, including all emergency vehicles.

The Fleet Manager supplied annual fuel & fleet information which included mileage and all fuel consumed by vehicle. City staff worked in partnership with University of Oregon students to calculate fuel economy averages for certain types of vehicles (e.g. sedans, pickups). These averages were calculated by using information from the EPA's MPG ratings at www.fueleconomy.gov, or based on the fuel economy of averages provided for similar vehicles.

Most fuel for the City fleet was purchased from the City managed fuel facility or the Jerry Brown Company fuel facility; however, there were rare occasions when an employee may have used a personal credit card to pay for fuel for a City vehicle at a non-City fuel facility. Such purchases were not included in this inventory due to the difficulty in obtaining those records. This was determined to occur infrequently enough that this exclusion did not impact the overall sense of scale of fleet emissions in this inventory.

Fleet data was gathered and broke down by vehicle types. Sedans were responsible for 34% of the City fleet's total fuel consumption. A large majority of these vehicles are utilized by Police and non-Maintenance City Hall staff. Light trucks and SUV's were also responsible for a significant amount of fuel consumption at 34% of total City fleet fuel use. Heavy trucks were responsible for 21% of the overall fuel consumption and the remaining 5% was consumed by City owned motorcycles and vans.

Figure 5: City of Springfield's Greenhouse Gas Emissions from Local Government Operations (2010)



SCOPE 1 EMISSIONS CONTINUED…

Natural Gas

The City's public works staff, including Facility Manager, provided the total therms of natural gas consumed in the City's facilities. While the City owns and operates 18 facilities in total, only 5 of these utilize natural gas for building and water heating.
These facilities include the;

- Public Works Maintenance Facility
- Springfield Justice Center and Jail
- Fire Stations (5 stations in total)
- City Hall
- Booth Kelly Site

Other Stationary Fuels

The City does not directly utilize other stationary fuels at this time.

Refrigerants

The City uses HCFC-22 (also known as R-22) as a refrigerant in its heating, ventilation and air conditioning (HVAC) systems. Because HVAC systems have a closed-loop design, refrigerants are generally added only when HVAC repairs or maintenance are required, as seals and gaskets break down over time. In 2010, two facilities utilized refrigerants during repairs, replacing 13lbs total. This 13lbs has a MT CO2e of 8.5. This loss is due to aging facilities and systems.

THIS PAGE INTENTIONALLY LEFT BLANK

SCOPE 2 EMISSIONS

Electricity

The Springfield Utility Board (SUB) is the local utility serving the City of Springfield. SUB provided City staff with detailed reports including the total kWh for 2010 for all City buildings and facilities (e.g. streetlights, traffic signals, water pump & lift stations, irrigation).

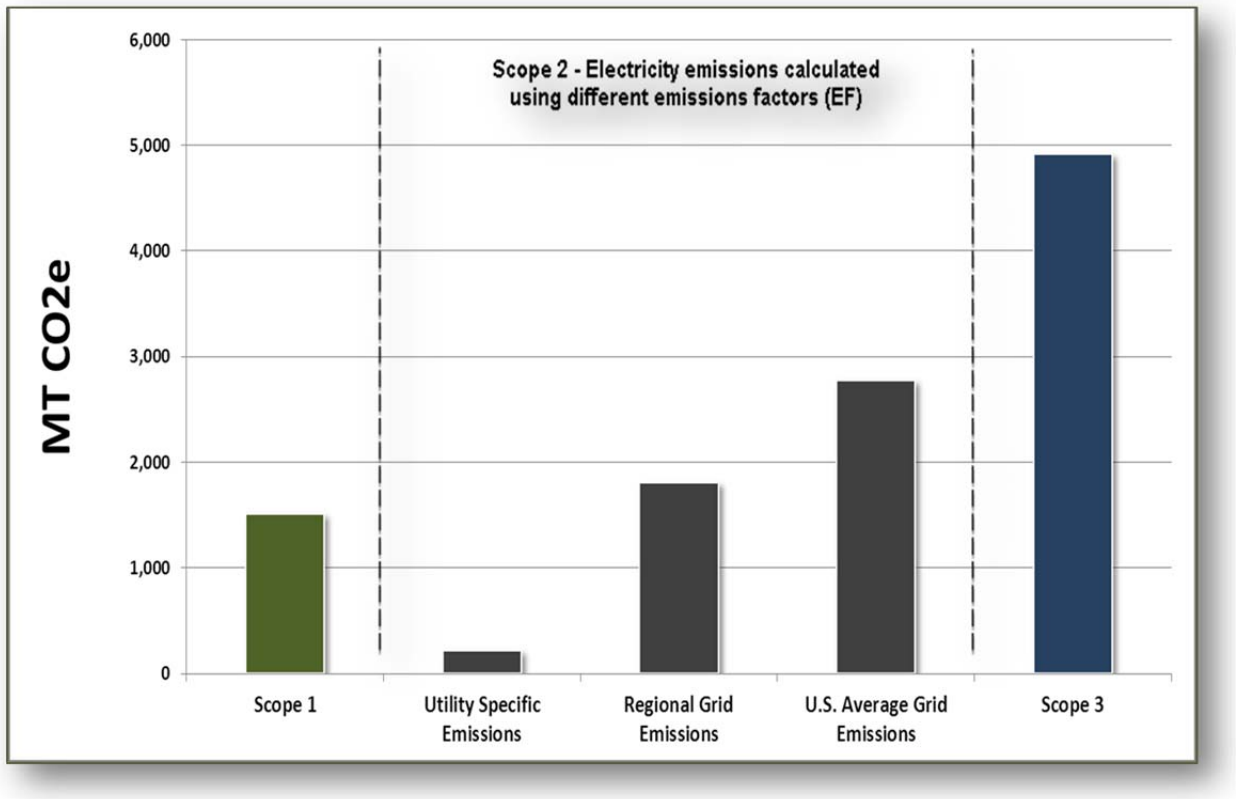
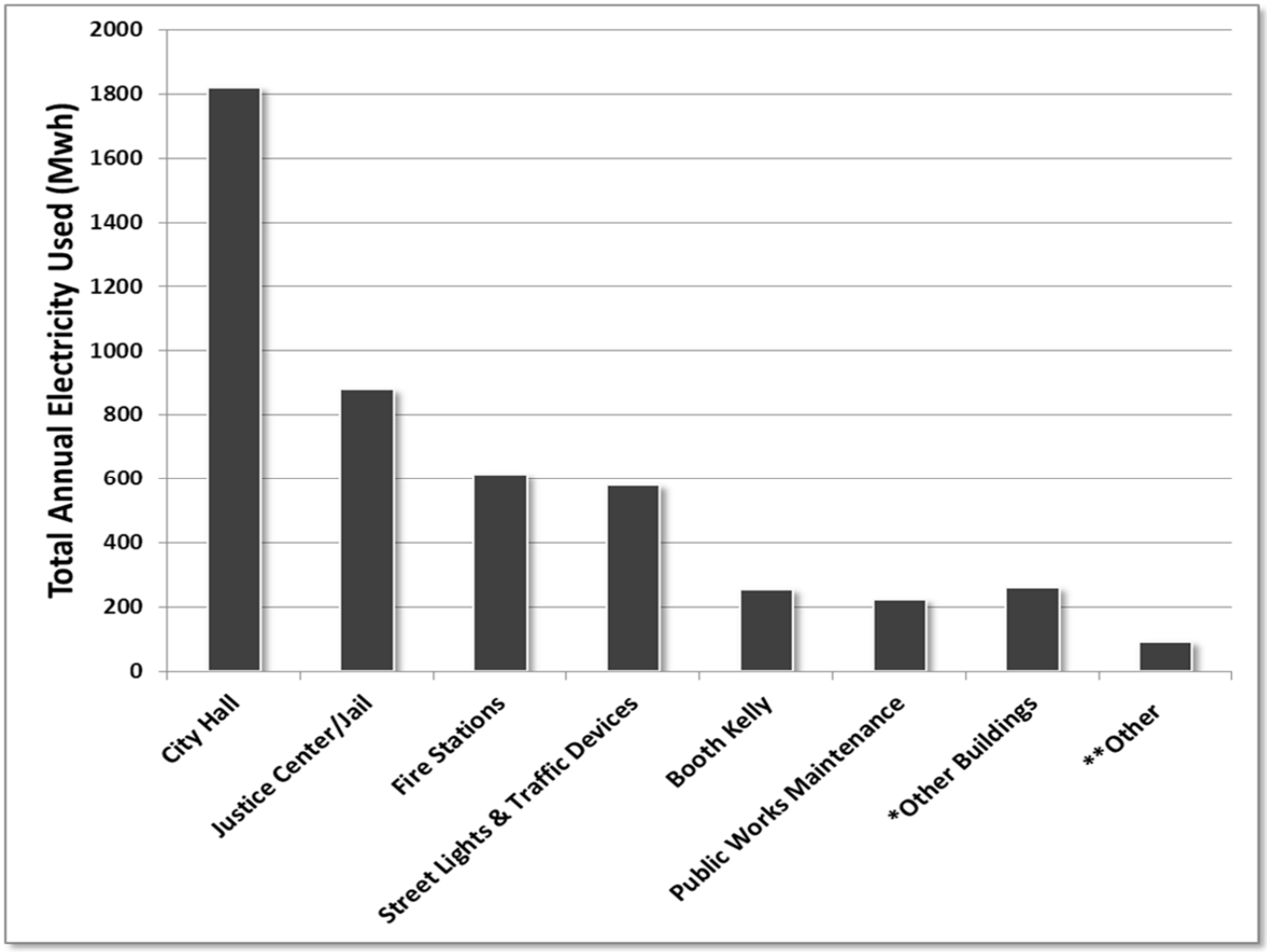


Figure 6: Electricity Emissions for City of Springfield Buildings & Equipment (2010)

SUB currently purchases all of its electricity from Bonneville Power Administration, an agency created by Congress to sell electricity generated from the federal government's hydroelectric dams on the Columbia River. Over 80% of SUBs purchased power comes from Hydroelectric dams compared to the national average which is just under 10%. Similarly, just over 5% of SUB's power is generated from coal compared to the national average of 50%. Because SUB already purchases the majority of its power from clean energy sources, the City of Springfield's electricity consumption data may appear skewed as the overall MT CO2e numbers appear significantly lower than other Cities. While these benefits are great, the City still desires to monitor and increase energy efficiency decreasing total kWhs used.

Figures 6 and 7 provide additional perspective on the emissions associated with electricity consumption by regional and national averages and per City owned facility.

Figure 7: Electricity Emissions for City of Springfield Buildings & Equipment (2010)



* Includes the Springfield Carter Building, Springfield Depot, and Storage Facilities
** Includes City Infrastructure such as Pump & Lift Stations and Irrigation

SCOPE 3 EMISSIONS

Business Travel

In addition to using City-owned fleet vehicles, employees sometimes travel on City business by air, rail, rental cars, or in their own vehicles. Each City department provided printouts of business travel records which includes modes of travel and destinations. Total passenger miles were calculated based on round trip mileage between Springfield and the destination cities (airline miles were computed on www.webflyer.com)

The bulk (83%) of the emissions for this category originated from air travel with a total of 44,315 miles traveled. A radiative forcing index (RFI) of 2.0 was used to adjust for the effect of air travel on the upper atmosphere.

At times, City employees used their own vehicles for business travel and did not request mileage reimbursement; thus, these non-reported trips were difficult to capture and include in the data. Through a survey effort, the City was able to determine that approximately 44% of employees utilize their personal vehicles for business related travel without requesting mileage reimbursement. Of the 44%, 2/3 do so 1 to 2 times per week and travel 10 miles or less, roundtrip.

Compared to other emissions sources in this inventory, business travel produced a minute portion of total GHG emissions for the City of Springfield in 2010 (30 MT CO_2e out of a total of 8,290 MT CO_2e).

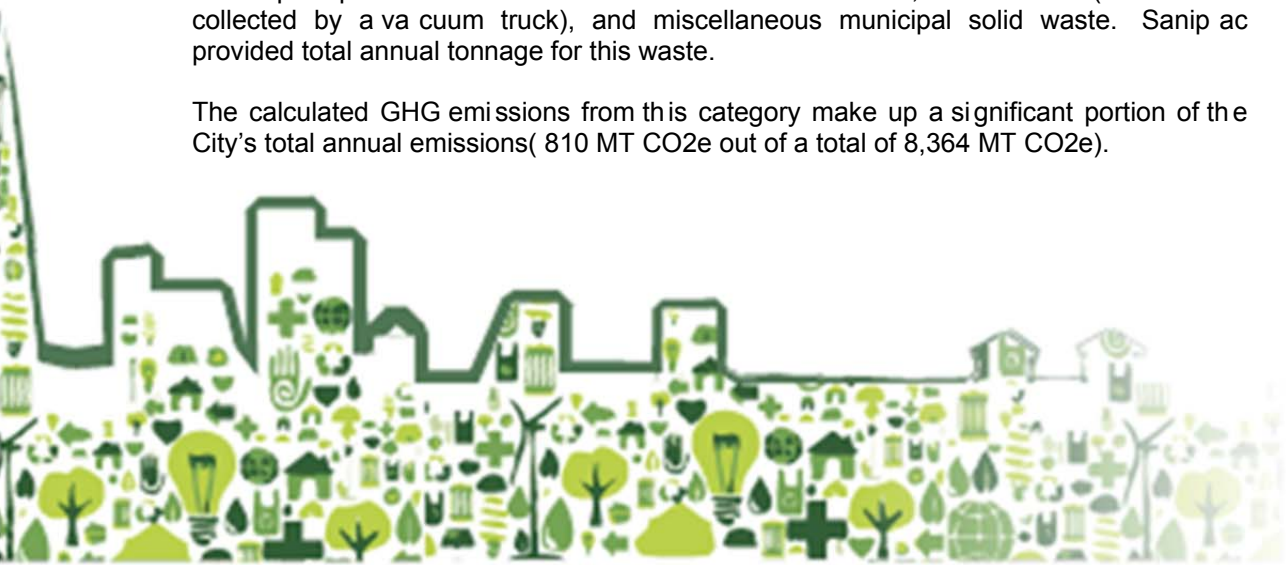
Solid Waste

Solid waste generated by the City of Springfield in 2010 was sent to Short Mountain Landfill in Lane County, Oregon, where the methane (generated from the waste breaking down under anaerobic conditions) was recovered and flared. This inventory did not account for methane releases from the City's solid waste before it arrived at the landfill collections system.

A portion of the emissions from the City's solid waste collection was estimated based on a weekly pick-up schedule with Sanipac, the City's waste hauler. These scheduled pick-ups included containers at City Hall, Public Works Maintenance, the Springfield Justice Center, and the Springfield Fire facilities. This information was calculated based on the weight of the total volume of each container collected and disposed of.

The remainder of the City's landfill-bound solid waste was removed on an "on-call" basis. These pickups included containers from construction debris, vactor waste (street waste collected by a vacuum truck), and miscellaneous municipal solid waste. Sanipac provided total annual tonnage for this waste.

The calculated GHG emissions from this category make up a significant portion of the City's total annual emissions(810 MT CO2e out of a total of 8,364 MT CO2e).



SCOPE 3 EMISSIONS CONTINUED…

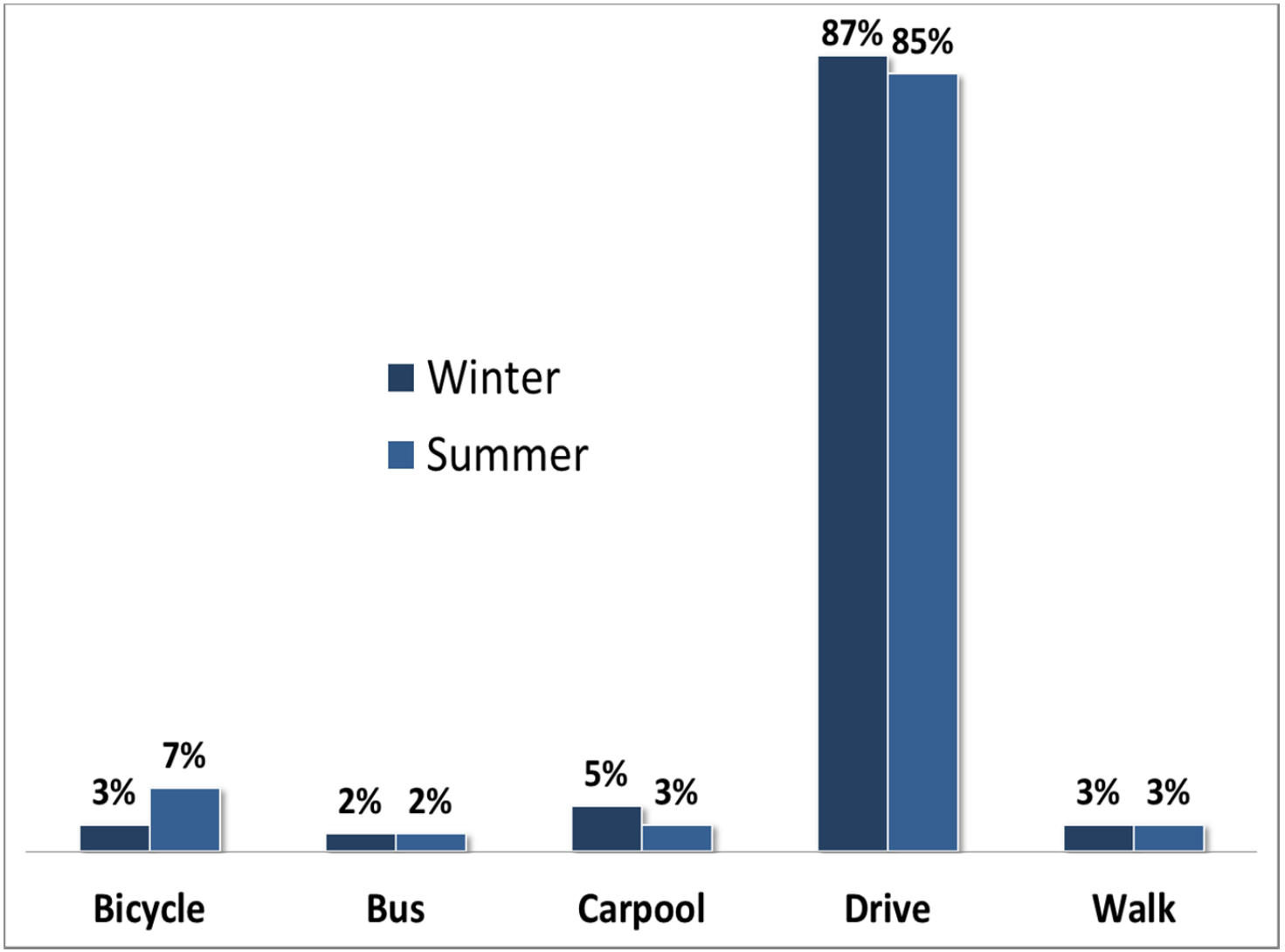
Commute

In order to complete this report, the City of Springfield issued a voluntary Employee Commute Survey to all staff. The survey was created by City Staff and University of Oregon students and included questions about employee commute methods (e.g. single occupancy vehicles, carpools, public transit, walking, bicycling) and the resulting total and distance of daily commuting trips. In an effort to support future GHG inventory work, staff intends to begin issuing an Employee Commute Survey annually.

The survey results were used to calculate commute-related emissions for 2010. Included in the survey were questions related to commute distance and employee vehicle type. The daily average commute distance was determined to 13 miles one-way. An average U.S. fleet fuel efficiency of 20.1 miles per gallon was used to determine the employee-owned vehicle fuel economy average.

While the City does not have any control over how its employees get to work, it can help to educate employees to make less-GHG intensive transportation choices. Currently, the City offers subsidized public transportation (LTD) passes to staff and participates in several events throughout the year to encourage the use of these alternative commute options.

Figure 8: Commute Mode for City of Springfield Employees by Season (2010)



SCOPE 3 EMISSIONS CONTINUED…

Embodied Emissions in Purchased Goods and Services

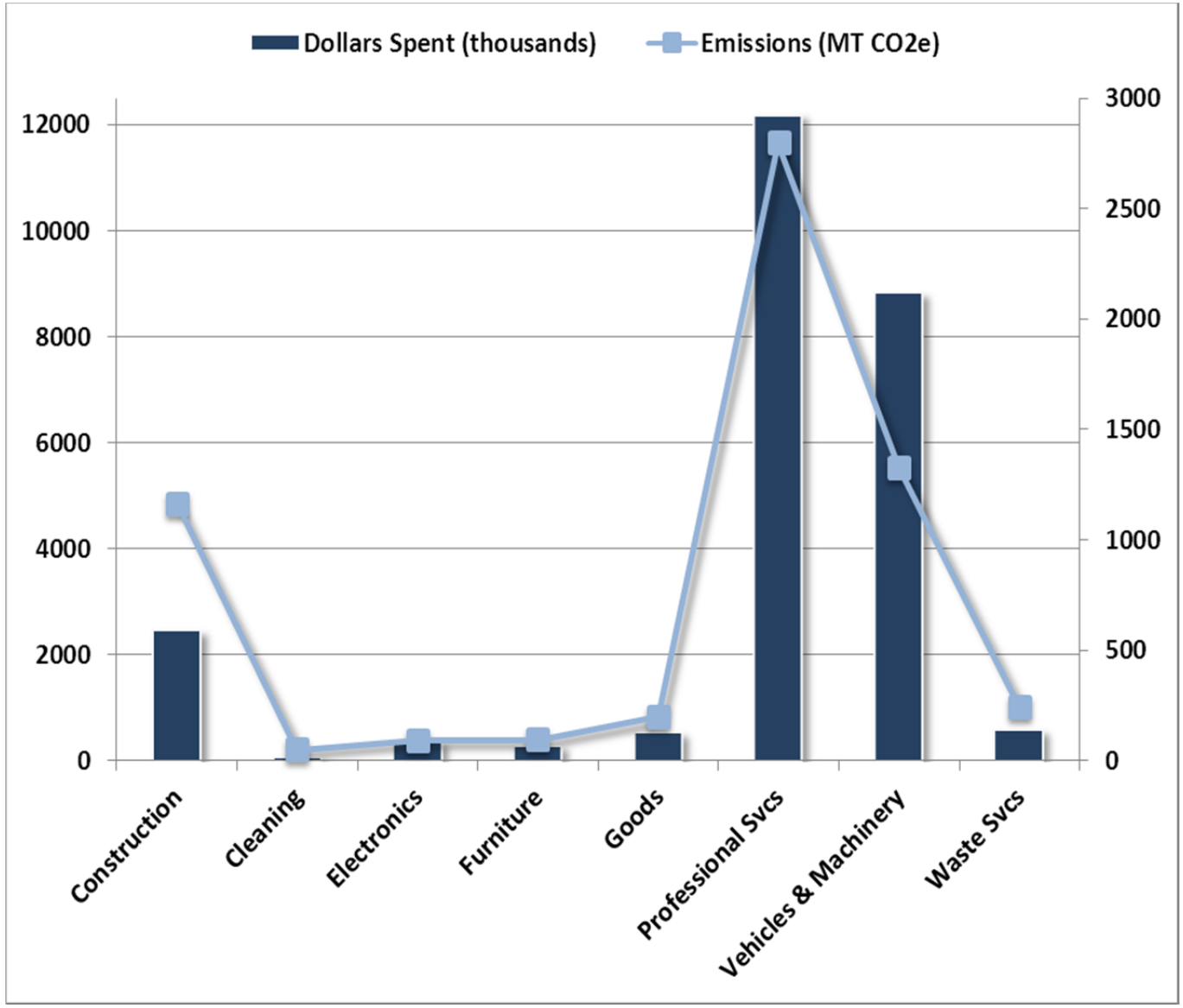
For estimating the emissions associated with producing the goods and services purchased by the City of Springfield, this analysis relied on Economic Input-Output Life-Cycle Analysis (EIOLCA), a public-domain tool developed by Carnegie Mellon University.[3]

To begin the process of assessing the embodied emissions in the City of Springfield's supply chain, the Finance Department provided a list of the City's total expenses for 2010. From this list, certain items were immediately excluded, such as the costs of any item already accounted for elsewhere in this inventory (e.g. fleet fuel, water and electricity purchases); salaries and other forms of employee compensation; and taxes and other types of funds transfers. The remaining expenses were then categorized based on the description of goods or services (e.g. construction, professional services, waste services, and vehicles and machinery). Emissions factors (MT CO2e/dollar) for the corresponding categories were then found using the 2002 model found at www.eiolca.net. These emissions were then adjusted for inflation.

The EIOLCA tool is a valuable, but limited, instrument for determining a sense of scale for embodied GHG emissions for purchased goods and services. When evaluating these results, it is essential to bear in mind that the emissions reported here for the categories of purchases made by the City of Springfield are based on emissions factors using aggregate national averages of similar products or services and are estimates only.

[3] Carnegie Mellon University Green Design Institute. (2008) Economic Input-Output Life Cycle Assessment (EIO-LCA), US 1997 Industry Benchmark model [Internet], Available from:<http://www.eiolca.net> Accessed 1 January, 2008.

Figure 9: Embodied Emissions in Purchased Goods and Services for the City of Springfield Compared to Dollars Spent (2010)



COST OF CARBON: QUANTIFICATION AND RISK

Assembling a GHG inventory is an opportunity to analyze a particular kind of financial risk, i.e., the implications of a "cost of carbon" – a direct or indirect cost associated with GHG emissions, as a result of policy. Many analyses of proposed legislation have indicated a likely range of this cost, and we can see examples in countries that have already capped CO_2 emissions.

Recent EPA analysis[4] of proposed climate policy suggests that, within a few years of implementing a cap-and-trade system, the cost of carbon could be around $15 per MT CO_2e. One proposed "reserve price" (or price floor) is $10, while short-term "escape hatch" prices (or price ceilings) have been around $30. This range provides a sense of the City of Springfield's total direct and indirect financial exposure related to a cost of carbon.

This total financial risk is unlikely to be borne entirely by the City of Springfield. Indeed, just as part of the carbon footprint is shared with others – from employees who commute to vendors that supply the organization with goods and services – the cost-of-carbon risk will likely be shared. This rough calculation is an approximation of the financial risk that could emerge under likely climate policy scenarios.

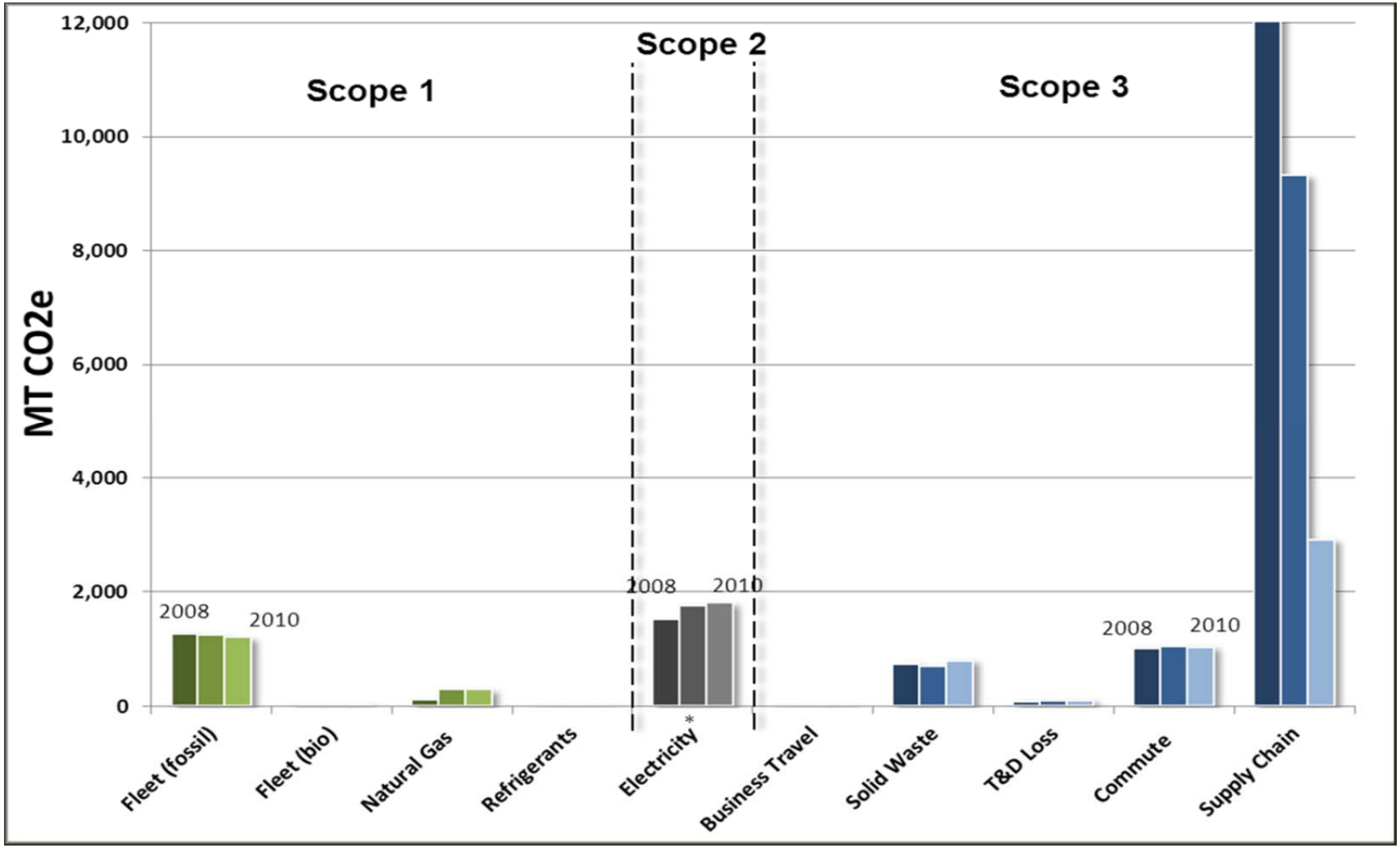
[4] http://www.epa.gov/climatechange/economics/pdfs/HR2454_Analysis.pdf

THIS PAGE INTENTIONALLY LEFT BLANK

COMPARISON WITH 2008 AND 2009 GHG INVENTORY

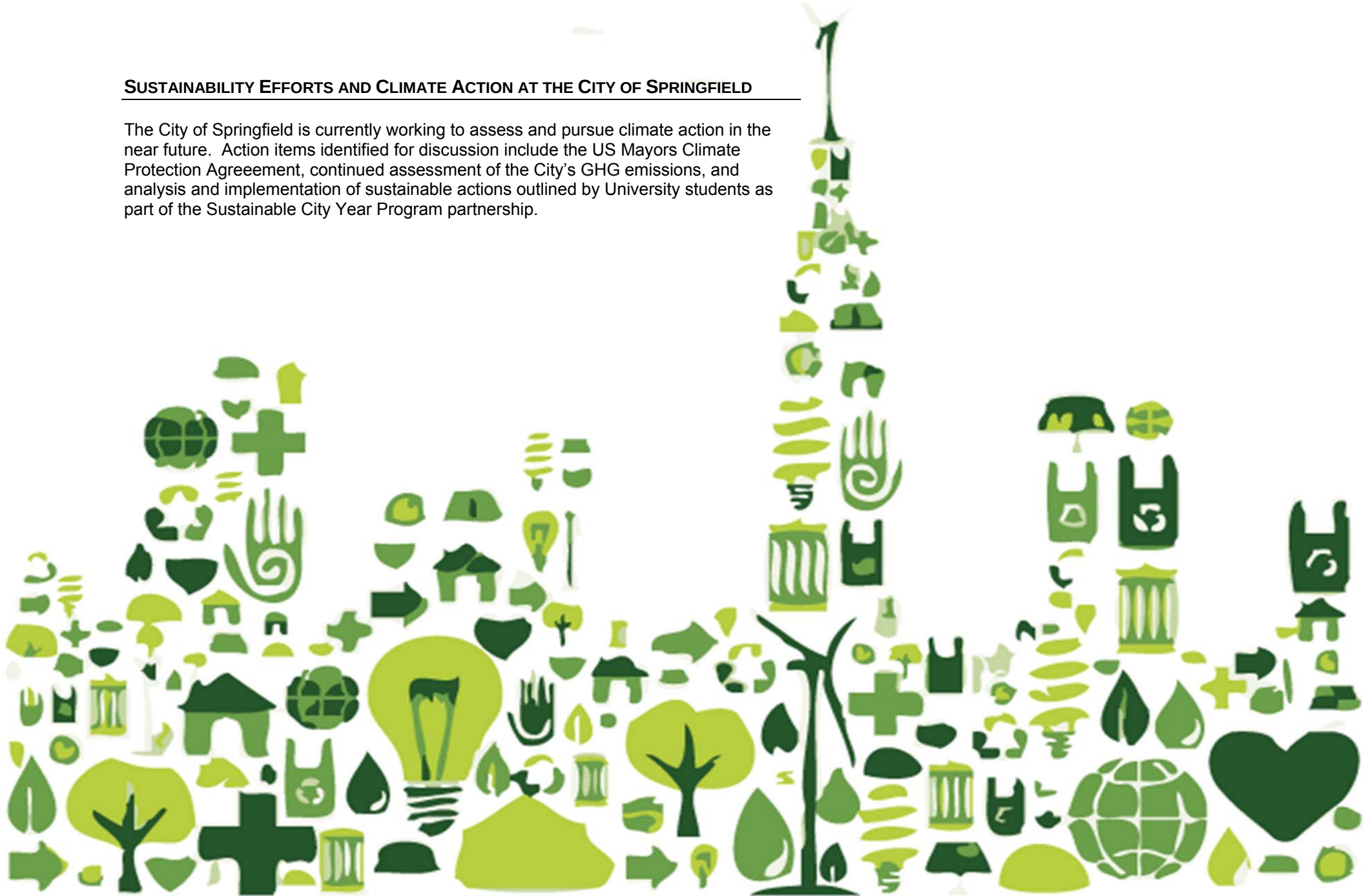
In 2011, the City of Springfield completed GHG inventories of City operations for the years of 2008 and 2009 in addition to 2010.

Figure 10: Comparison of GHG Emissions for the City of Springfield (2008, 2009, and 2010)



SUSTAINABILITY EFFORTS AND CLIMATE ACTION AT THE CITY OF SPRINGFIELD

The City of Springfield is currently working to assess and pursue climate action in the near future. Action items identified for discussion include the US Mayors Climate Protection Agreeement, continued assessment of the City's GHG emissions, and analysis and implementation of sustainable actions outlined by University students as part of the Sustainable City Year Program partnership.



CONTACT INFORMATION AND ADDITIONAL RESOURCES

Acknowledgments: Linda Olson, Linda Kurtz, and Courtney Griesel conducted this inventory for the City of Springfield. Numerous City staff contributed data to the GHG inventory, including Nathan Bell, DeeDee Martin, Jodi Peterson, Julie Wilson, David Reesor, Marcy Parker, and Jim Polston.

Additional contributions were made by staff from City vendors, including: Sanipac, Marshall's, Other Heating, Springfield Utility Board.

This inventory was performed as part of the City of Springfield's Sustainable City Year Program partnership with the University of Oregon. As a benefit of this partnership, a number of undergraduate and graduate level students contributed data to the GHG inventory.

For more information, visit www.springfield-or.gov or contact Courtney Griesel, Management Analyst for the City of Springfield, at (541)736-7132 or by email at cgriesel@springfield-or.gov.

This GHG inventory was completed as part of the City of Springfield's participation in the Sustainable City Year Program, a partnership with the University of Oregon, and the Operation Climate Collaborative (OCC), a multi-jurisdictional process led by Good Company (www.goodcompany.com). Good Company facilitated the use of its proprietary calculation tool (Good Company's Carbon Calculator, or G3C), technical assistance related to and quality checks of the calculator's use, offered support and guidance in data gathering and the development of estimation methods, and provided the template for this document. Staff of the City of Springfield prepared this report. For more information about OCC, visit www.goodcompany.com/occ or contact Kelly Hoell (kelly.hoell@goodcompany.com, 541-341-4663, ext. 217).

This GHG inventory was also supported by the HUD sponsored Lane Livability Consortium, an organization founded to bring together Lane County regional leaders in economic development, higher education, transportation, affordable housing, water and energy, and social equity to build upon Springfield and Eugene regional successes and to further integrate livability into public plans and strategies.

The work that provided the basis for this publication was supported by funding under an award with the U.S. Department of Housing and Urban Development. The substance and findings of the work are dedicated to the public. The author and publisher are solely responsible for the accuracy of all statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the Government.