



November 8, 2010

To: Citizen Advisory Committee  
From: Susan Payne and Stacy Clauson, LCOG  
Subject: CAC Item 5: Greenhouse Gas Planning –Continued

**Action Recommended: None. Information and discussion only.**

### **Issue Statement**

This agenda item is a follow-up to the July 15, 2010 presentation of the preliminary results of the community greenhouse gas (GHG) inventory.

### **Background**

In 2009, MPC directed MPO staff to prepare a community GHG inventory to set the context for GHG reduction strategies within the Central Lane MPO. A draft inventory has now been completed.

In July, staff presented the preliminary results of the inventory to the CAC. At this meeting, there was insufficient time for CAC questions. In addition, since the July meeting, staff has prepared a preliminary written report to summarize the findings of the inventory that it would like to present to the CAC for input and discussion (see Attachment 1).

The draft findings of the inventory were presented to the MPC at their November meeting. The MPC did have a couple of questions about inventory methods that staff will be responding to at the December MPC meeting.

### **Discussion**

The development of greenhouse gas emissions inventories is an emerging science – data requirements, decisions as to geographic boundaries, material flows and other analyses and protocols are still emerging. The type of inventory analysis chosen is related to the scale at which the results will be used and the use to which the inventory is targeted.

Various inventory protocols have been developed by non-profit, governmental and for-profit organizations. Most have been directed toward detailing the greenhouse gas emissions of particular businesses or government agencies or individual households. The MPO inventory, instead, focuses on the emissions of this region as a whole, and, in

doing so, links personal lifestyle and behavior choices of the ‘average citizen’ of this area to the ‘carbon footprint’ of the region.

Included in the Central Lane Community GHG inventory are emissions from direct consumption such as gasoline combustion; indirect emissions such as from use of electricity and natural gas that are generated or provided from outside our region; and remote emissions associated with the production and transport of goods and food that we consume here.

The draft inventory has been completed and has been peer reviewed by the Good Company, a consulting firm with significant prior experience in developing greenhouse gas inventories. Good Company assisted the Portland Metro area in developing their community greenhouse gas inventory, and is working with Rogue Valley on a similar project.

### *Methods*

This analysis builds on the recent work by US-EPA to assemble a new kind of emissions inventory (known as a “systems inventory” or “consumption based inventory”). This type of inventory considers the embodied energy of all the goods, services, transportation modes, and energy consumed in a specific area. This inventory approach was chosen for several different reasons:

- The inventory is organized so that the “Transportation” system contains data on emissions that are likely to be able to be affected by regional and local transportation strategies. In many traditional inventories, the transportation system includes through-traffic that merely passes through the region. This is particularly a concern with freight traffic that moves from producers in one region to consumers in another – these are emissions that are being driven by consumption decisions in other communities, and reduction strategies adopted in this community are unlikely to impact this source of emissions. Instead, the emissions from long-haul freight are included as a component of the materials and goods system thereby reflecting freight cost as part of the ‘life-cycle’ accounting.
- The inventory reveals the use by households within the MPO of light passenger vehicles for travel, a key component of the HB2001 and SB1059 requirements.
- The inventory reveals additional information about the emissions associated with the material we buy, use and throw away, emissions that are not accounted for in traditional inventories.
- The inventory focuses on where materials and goods are consumed and assigns emissions to the end user – the emissions include all of the upstream carbon that was used to produce and transport the materials. As a result, the inventory can better target mitigation strategies that may result in behavior changes to reduce overall emissions.

It is important to note that a definitive protocol for conducting a community GHG inventory does not exist. The systems-based inventory approach is an evolving inventory approach. It is anticipated that this inventory may need to be updated in the future as more standard protocols are developed.

A growing number of communities are beginning to use a systems-based inventory approach. The inventory from Metro, the Portland area MPO, was conducted using this protocol. As part of their work on the inventory, Metro presented their methods and findings to the Oregon Global Warming Commission and the Oregon Modeling Steering Committee, both of which were favorable to the approach. The findings are referenced in the City of Eugene's Climate and Energy Action Plan. Staff from Central Lane MPO consulted with Metro staff in undertaking this work.

In order to prepare the inventory, staff assembled data for some key factors (e.g. regional energy consumption, vehicle travel, transit use, and waste disposal and recovery). For other areas in which more specific regional data was not available (such as total emissions from the consumption of goods and materials), the inventory used inputs from the EPA study based on our region's share of U.S. emissions. This choice was based upon the concept that the regional emissions associated with the consumption of goods and materials is likely to be very similar to that of the nation. In some cases, the inputs were adjusted to reflect the lower purchasing power in this region, a consequence of our lower average income as compared to that of the nation as a whole. As more state or regional data become available, it is possible to revise the inventory with localized data.

The draft inventory has been peer reviewed by the Good Company.

### *Key Findings*

Consumption of materials and goods, omitted in previous inventories for Eugene and Springfield, comprise the largest slice of GHG emissions. For local passenger transport, the annual emissions are 528,559 MT CO<sub>2</sub>e, or 16% of the region's total emissions. Local passenger transport is the share of the Eugene-Springfield metropolitan area emissions that will be addressed by the light passenger vehicle GHG emissions targets to be established under SB 1059.

On a per capita basis, this is equivalent to 2.3 MT CO<sub>2</sub>e per person per year. According to the EPA Equivalency Calculator, this is the equivalent to 258 gallons of gasoline consumed per person annually. It has been estimated by the State that fuel use would need to reduce to 68 gallons per person in 2050 in order to achieve the reduction targets established under overall statewide greenhouse gas emission reduction goals, assuming that each sector of the economy was required to reduce its emissions by 75% of 1990 levels. The State is working to establish metropolitan area light vehicle GHG emission targets by June, 2011.

## **Next Steps**

Staff will bring the final GHG Inventory Report back to the MPC for their acceptance at the December MPC meeting.

In other GHG Planning news, as part of the implementation of SB 1059, ODOT, DEQ and ODOE, by March 2011, will be providing estimates of 1990 light vehicle GHG emissions and forecasts of future vehicle fleet and fuel characteristics. The estimates from the State agencies will serve as one of the inputs to the light vehicle GHG emissions targets that LCDC will be establishing for the MPO and that are due out in June, 2011.

Based upon *very preliminary discussions*, it appears that the method used to calculate light vehicle GHG emissions *may* differ from that used in this community inventory. Initial indications are that the State will estimate all light duty vehicle GHG emissions that occur within the MPO boundary, including emissions from vehicles that pass through the MPO, as well as vehicles that commute into the MPO from outside of its boundaries. The MPO will need to rely on state, federal and other MPO's strategies to address emissions from long-distance external trips over which we have no influence. However, the MPO will need to undertake coordination with external communities located in the regional travel shed in order to address travel attracted to the metropolitan area by shopping, medical facilities and jobs.

Regardless, the bulk of light passenger vehicle travel within the MPO area occurs due to activities of our residents and is described by the community inventory. Once this inventory work has been brought to a close, MPO staff will increase the focus on researching and categorizing local strategies that will provide the "toolkit" to achieve emissions reductions by our residents. This toolkit will coordinate with the State and Federal strategies.

## **Recommendation**

Staff has prepared a draft report that summarizes the findings of the community greenhouse gas inventory (see Attachment 1) and is asking CAC to review the document and provide comments. In particular:

- Is any key information missing?
- Does the report highlight the right issues of concern?
- Are there any points that are unclear or difficult to understand?

## **Attachment**

Attachment 1: Community Greenhouse Gas Inventory