

## MEMO

To: NM RCI Technical Working Group  
CC: NMED staff  
From: Michael Lazarus, Tellus/CCS  
Re: Alternative Representations of New Mexico Greenhouse Gas Emissions  
Date: October 10, 2005

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Based on Ed Mazria's input, we took another look at the draft inventory emissions estimates. Ed suggested presenting the state's emissions in terms of a simple pie chart, showing the emissions associated with each economic sector, incorporating the emissions associated with delivering electricity and fossil fuels used by these sectors. Doing so can help to grasp the overall contributions of the state's residential, commercial, industrial, agricultural sectors to GHG emissions, as well as the level of effort that might be needed to achieve overall emissions reductions in line with Governor Richardson's executive order.

We used the July 2005 draft inventory estimates to reconstruct the sectoral shares for the year 2000. Figure 1 shows that of the state's estimated 83 million MtCO<sub>2e</sub> of GHG emissions in 2000, about one-third was associated with electricity and natural production in excess of state consumption levels ("net exports").<sup>1</sup> Excluding these slices, and looking only at the in-state sectors,

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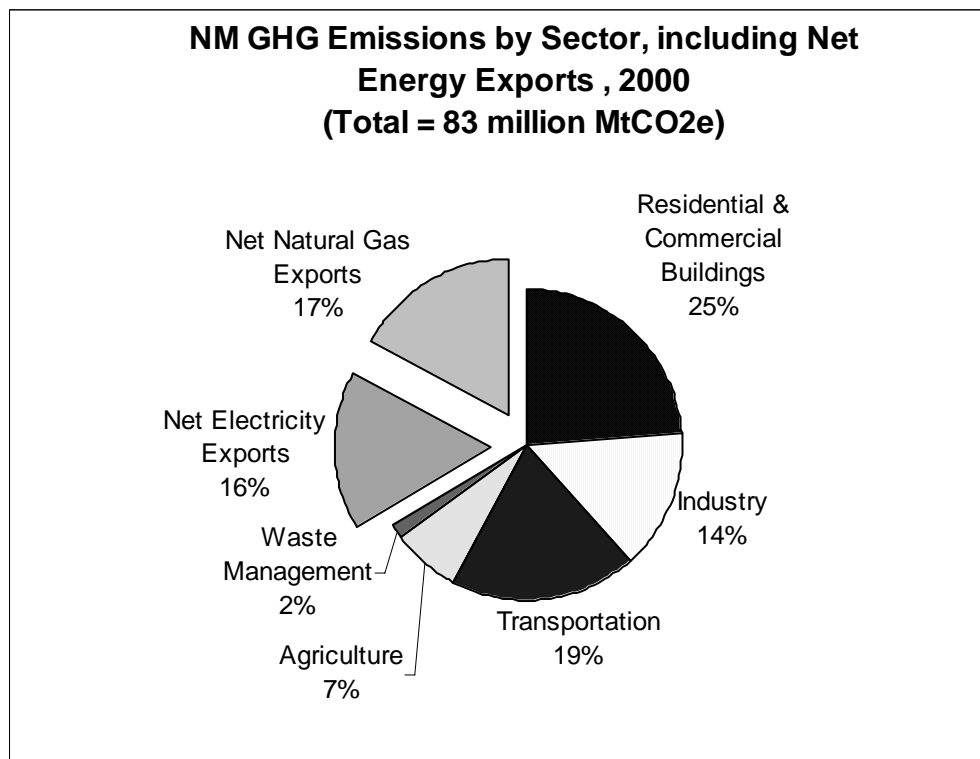
<sup>1</sup> Oil and coal are not shown separately, as production-related GHG emissions are far lower, and state consumption and production levels are more closely related.

Figure 2 shows that of the remaining 55 million MtCO<sub>2</sub>e in GHG emissions, about 36% are associated with residential and commercial building energy consumption, 22% with industrial energy consumption and process GHG emissions, 29% with transportation fuel use, 11% with agricultural activities, and 2% with waste management emissions.<sup>2</sup> Figure 3 shows that, based on growth assumptions in the draft NM inventory document, by 2020, the pie (i.e. emissions that result from in-state consumption) will grow by about 40% to 77 million MtCO<sub>2</sub>e, but the relative sectoral shares will not change appreciably (transportation increases slightly, while industry and agricultural shares decline slightly).

When viewing these charts, it is important to bear in mind that the RCI TWG is tasked with evaluating options to reduce building and industry-related emissions *largely from the demand side* (e.g. through energy efficiency, building/community design, consumption patterns, and so on). The ES TWG, in contrast, is charged with considering options to reduce these emissions *largely from the supply side* (e.g. reducing the GHG emissions per unit of electricity, natural gas, and other supplied energy).

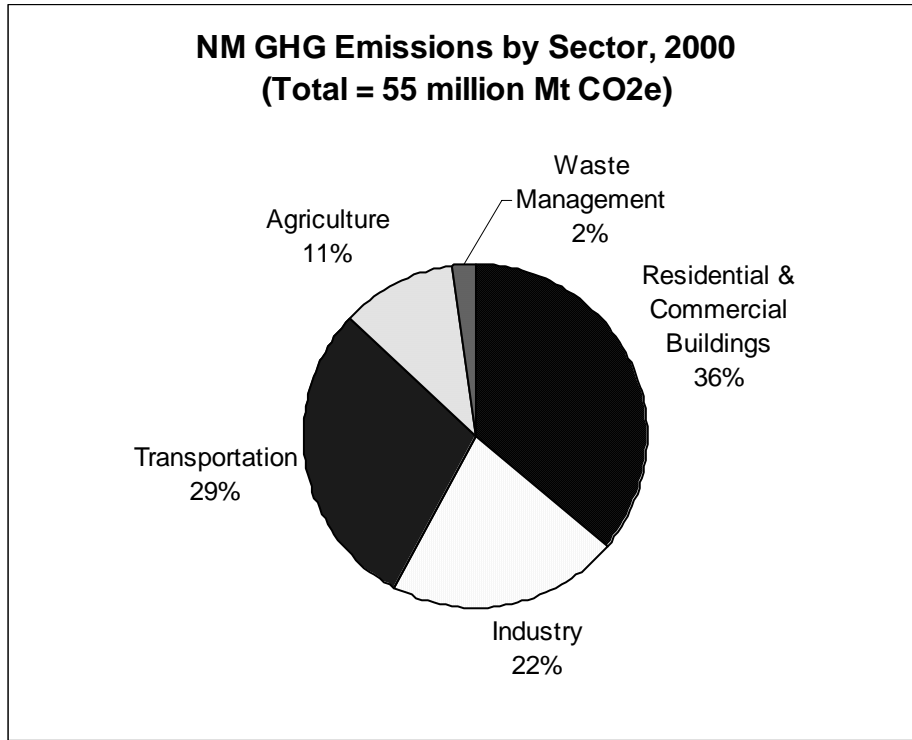
A spreadsheet is attached to illustrate how these pie charts were prepared.

**Figure 1. Representation of NM GHG Emissions by Consuming Sector**  
Based on July 2005 Draft GHG Inventory



<sup>2</sup> These estimates are based on draft inventory and projection figures, and are thus subject to further revision with any improvements to the inventory, along with any increased ability to accurately allocate electricity and fuel production emissions to in-state consumption.

**Figure 2. Representation of NM GHG Emissions by In-State Consuming Sector**  
Based on July 2005 Draft GHG Inventory



**Figure 3. Projection of NM GHG Emissions by In-State Consuming Sector**  
Based on July 2005 Draft GHG Inventory

