## Bill Storm

**From:** Reuther, Kevin [kreuther@mncenter.org]
**Sent:** Friday, January 11, 2008 4:09 PM
**To:** Bill Storm
**Subject:** Mesaba Energy Project DEIS
**Attachments:** MCEA Comments on Mesaba Draft EIS.pdf; P Ciborowski Greenhouse Gas Inventory.pdf

Attached you will find the Minnesota Center for Environmental Advocacy's comments on Joint DOE/DOC EIS for Mesaba Energy Project, PUC Docket No. E6472/GS-06-668 and attachment referenced in the comments. Paper copy of these two documents is following via U.S. mail.

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"Since 1974, your legal and scientific voice protecting and defending Minnesota's environment."

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January 11, 2008

**VIA ELECTRONIC AND U.S. MAIL**

Bill Storm
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101

**Re: Comments on Joint DOE/DOC EIS for Mesaba Energy Project, PUC Docket Number E6472/GS-06-668**

Dear Mr. Storm:

I write on behalf of the Minnesota Center for Environmental Advocacy ("MCEA") with comments on the draft Environmental Impact Statement ("EIS") for the Mesaba Energy Project. MCEA is a Minnesota nonprofit environmental organization whose mission is to use law, science, and research to preserve and protect Minnesota's natural resources, wildlife, and the health of its people. MCEA has state-wide membership. Energy policy has been an important focus of much of MCEA's work, and MCEA regularly participates in matters before the Minnesota Public Utilities Commission. Thank you for the opportunity to present comments on the scope of the EIS for the Mesaba Project.

MCEA reiterates and incorporates by reference the comments it submitted August 24, 2006 on the scope of the EIS and further submits that the draft EIS is inadequate because it fails to address the environmental effects of climate change and fails to account for climate impacts in its review of environmental effects.

**The EIS fails to address the environmental effects of the Mesaba Project's contribution to increased levels of greenhouse gases.**

The EIS fails to address or take into account what is likely today's most pressing environmental concern: climate change. As the agencies and Project proponents are aware, there is no longer a legitimate debate about *whether* human-induced climate change is happening; rather, the debate has come to focus on what to do about it. The scientific consensus that greenhouse gas emissions are contributing to climate change is well-documented and the subject of numerous reports from national and international agencies including the Intergovernmental Panel on Climate Change ("IPCC"), the National Academy of Sciences, the American Meteorological Society, the American Geophysical Union, and the American Association for the Advancement of Science. It has also become a major issue of public concern. As exclaimed in a Time Magazine headline from last year: "Be Worried, Be Very Worried." Time, *Special Report: Global Warming*, April 3, 2006.

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The EIS does not adequately address the environmental effects of Mesaba's projected emissions of approximately 10 million metric tons per year of carbon dioxide ("CO2").

The greenhouse gas emissions from the Mesaba Project would represent a very significant increase in state-wide greenhouse gas emissions at a time when Minnesota's express state policy is to achieve significant reductions in emissions. For example, between 2000 and 2004 the total increase in greenhouse gas emissions from all sources in the state was only 2.3 million. *See* Ciborowski, *Greenhouse Gas Inventory,* (attached). The Mesaba Project alone represents almost five times the amount of increase from all sectors over that four-year period. Thus, the Project would cause an almost 500% increase in the rate at which state greenhouse gas emissions are going up, assuming all other emissions remained constant, at a time when state policy requires significant reductions in emissions *See* Minn. Stat. § 216H.02 ("It is the goal of the state to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050.").

The EIS must evaluate the environmental consequences of continued increases in greenhouse gas emissions. The statement in the EIS contending that there are "differences of opinion" on "the extent to which any climate changes are caused by greenhouse gas emissions from human activity" is simply not true. The overwhelming scientific consensus is that anthropogenic sources of greenhouse gases is leading to climate change, and the fact that the DOC/DOE Environmental Impact Statement would suggest anything different is astounding. The IPCC, which the EIS cites (albeit to a 2001 rather than the more recent 2007 assessment), has said that global warming is "unequivocal" and states with "very high confidence" that warming is the result of human activity. *See,* IPCC Fourth Assessment Report (2007) available at http://www.ipcc.ch/ipccreports/ar4-wg1.htm.

Thus, there is no question whether Mesaba's contribution of 10 million tons CO2 annually, representing a significant increase in the growth of Minnesota's greenhouse gas emissions, will have adverse environmental consequences. It clearly will, and those consequences must be addressed in the EIS.

Environmental review laws require "a detailed statement" on the environmental consequences of a proposed action. 42 U.S.C. § 4332(C); Minn.Stat. § 116D.04, subd. 2a. Further, the level of significance of the environmental impact must dictate the attention paid to the issue in the EIS. 40 C.F.R. § 1502.2(b) ("Impacts shall be discussed in proportion to their significance"). As stated in MCEA's initial comments, it is beyond dispute that climate change presents the largest single threat to environmental resources, with consequences affecting water, air, land, and all living things, including humans. It violates basic environmental review principles that climate change effects from this project, a proposal that will contribute significant amounts of greenhouse gases, increasing the rate and scale of impending climate changes, are not addressed in this EIS. Information on climate change impacts on the environment is readily available and, in many instances, already in the

government agencies' possession. *See* Links and Resources collected at Minnesota Climate Change Advisory Group, Climate Change Impacts, http://www.mnclimatechange.us /background-impacts.cfm.; *see also*, Minnesota Pollution Control Agency Global Climate Change and its Impact on Minnesota, at http://www.pca.state.mn.us/hot /globalwarming.html#gastrends. Climate change and its concomitant environmental effects is a consequence of greenhouse gas emissions. The Mesaba Project is a major source of emissions and, as a result, these environmental effects must be addressed in the EIS. Failure to account for greenhouse gas emissions associated with the Project makes the EIS inadequate. *See Border Power Plant Working Group v. Department of Energy*, 260 F.Supp.2d 997, 1029 (S.D. Cal. 2003).

Finally, because the responsible governmental units ("RGUs") have not considered any of the environmental effects of climate change to which the Mesaba Project's emissions will contribute, they also have not evaluated alternatives or strategies that could mitigate emissions and subsequent effects. State and federal law require such inquiries and analysis in an EIS. Minn. Stat. § 116D.04, subd. 2a; 40 C.F.R. § 1500.2(e). The only mitigation measure considered appears to be carbon capture and sequestration which the Department of Energy has concluded is currently not feasible.

The EIS is inadequate without a thorough analysis of the environmental effects caused by continued increases in greenhouse gas emissions, and it will not withstand a legal challenge. Therefore, MCEA requests that the RGU's develop an analysis of the environmental impacts of the Project's greenhouse gas emissions that is thorough and detailed. The analysis should include a comprehensive evaluation of the greenhouse gas "footprint" of the project, the environmental impacts on Minnesota's natural resources of continued increases in greenhouse gas emissions, and an evaluation of any alternatives to mitigate the Project's carbon footprint.

**The EIS fails to take into account the likely effects of climate change when modeling environmental impacts.**

The EIS also appears to ignore the known or expected consequences of climate change in its analyses of environmental effects. The failure to account for expected changes potentially impacts all areas evaluated in the EIS. Predicted consequences of climate change – even assuming that atmospheric concentrations of greenhouse gases are stabilized soon – include drought, heavier rain events, increased flooding, more violent storm events, and changes in vegetation and habitat. *See, e.g,* Union of Concerned Scientists, *Great Lakes Communities and Ecosystems at Risk,* (available at http://www.ucsusa.org/greatlakes/). These changes to the environment should be factored in when evaluating the environmental impacts of the proposed Project. It is not clear that the models used account for predicted changes associated with climate change. For example, the projected changes in precipitation will affect surface water availability for the project, yet this does not appear to be considered in the EIS. (Likewise with regard to water resources, the EIS does not appear to have accounted for water use by Minnesota Steel, a recently permitted project that will consume

enormous amounts of water in and around the proposed West Range Site.) The need to address projected changes due to climate change is true not just for the example of water availability, but for many other aspects of the EIS as well, including the wetlands analysis and the air impact modeling.

**The EIS should evaluate the economic and social impacts of a Project that is not necessary to meet demand.**

MCEA maintains its position that the EIS should appropriately consider the need for the project. *See* August 24, 2006 MCEA Comments on Scoping. In this regard MCEA requests that the proceedings of the Minnesota Climate Change Advisory Group Technical Working Group on energy supply be made a part or the record of this case. In particular, MCEA requests that the evaluation of cost efficiency of reducing greenhouse gas emissions from various energy supply options which shows the relative expense of IGCC (and IGCC with carbon capture and sequestration) be made part of the record in this matter. Because the Department of Commerce is the lead agency convening the Minnesota Climate Change Advisory Group, these documents are already "before the agency" and are not reproduced here. If you require MCEA to supply hard copies of these documents for some reason, please let me know.

Thank you for the opportunity to comment on the draft EIS. If you have questions, please let me know.

Sincerely,

Kevin Reuther /st

Kevin Reuther

Enclosure

SF-00006-05(4/86)

DEPARTMENT : POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

# Office Memorandum

DATE : September 30, 2006

TO : David Thornton

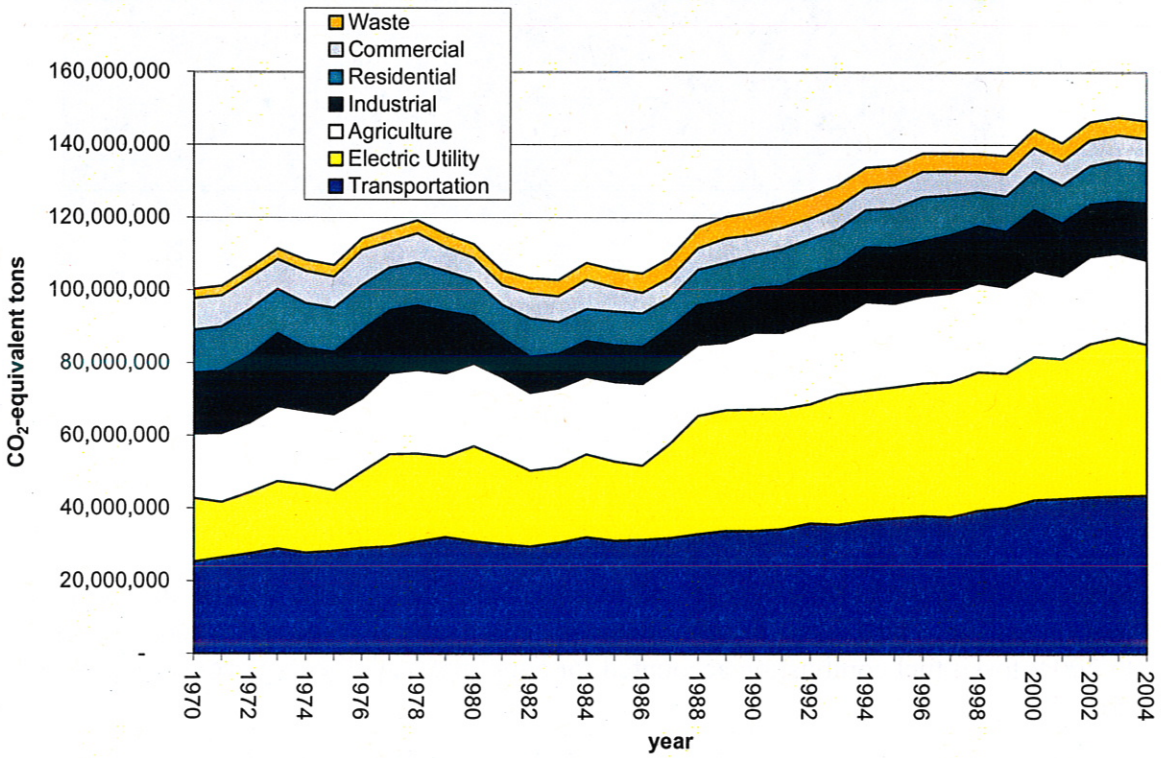
FROM : Peter Ciborowski

PHONE : 297-5822

SUBJECT : **Greenhouse Gas Inventory**

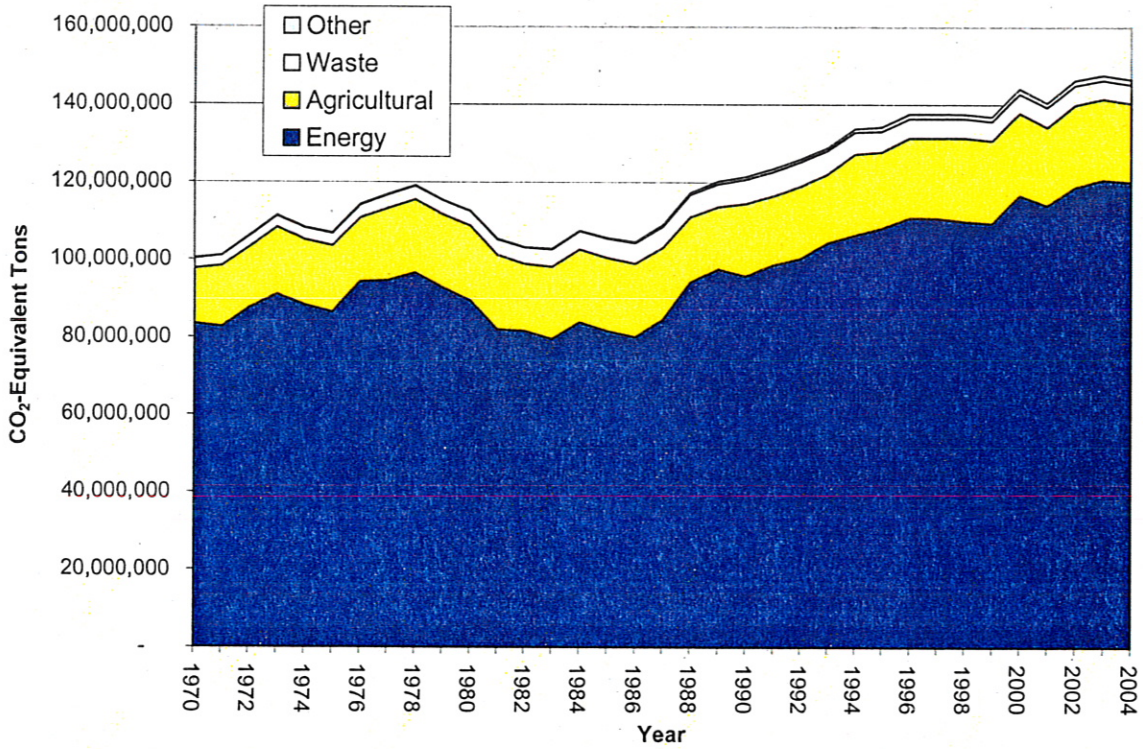
The MPCA produces a state greenhouse gas emission and sink inventory on a biennial basis. The inventory was updated recently for calendar years 2003 and 2004. The trend in emissions is shown in Figure 1 by economic sector. Minnesota greenhouse gas emissions were basically flat between 2002 and 2004, increasing by a few hundred thousand tons. Between 2000 and 2004 emissions increased by 2.3 million tons or about 2%, and from 1990 to 2004 by 25 million tons or 21%. In 2004 Minnesota emitted an estimated 146 million tons of greenhouse gases to the atmosphere. Of this, transportation and electricity generation accounted for about 60% of all GHG emissions from Minnesota.

**Figure 1. Greenhouse Gas Emissions from Minnesota, 1970-2004**



By major activity, energy production is the principal source of greenhouse gas emissions, accounting for about 80% of all GHG emissions. The trend in GHG emissions by major activity is shown in Figure 2. $CO_2$ is the most important greenhouse gas emitted to the atmosphere, comprising about 80% of all GHG emissions in the state. The 34-year trend since 1970 in GHG emissions by gas is shown in Figure 3 in $CO_2$-equivalent tons.

**Figure 2, Greenhouse Gas Emissions from Minnesota by Major Activity**




The general upward trend in statewide greenhouse gas emissions mirrors the rise in statewide fossil fuel energy use. The 34-year trend in statewide energy use is shown in Figure 4 by fuel type. In 2004, fossil fuel combustion accounted for about 85% of all energy consumption in Minnesota.

**Figure 3. Greenhouse Gas Emissions from Minnesota, 1970-2004**

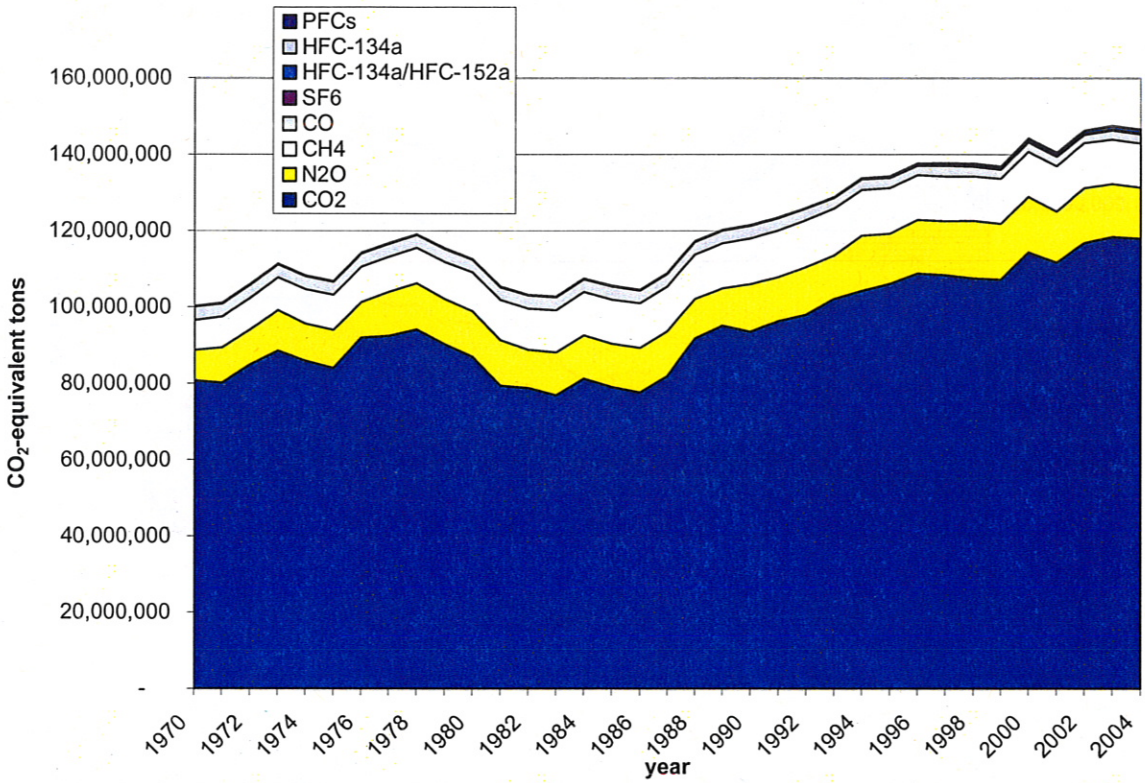
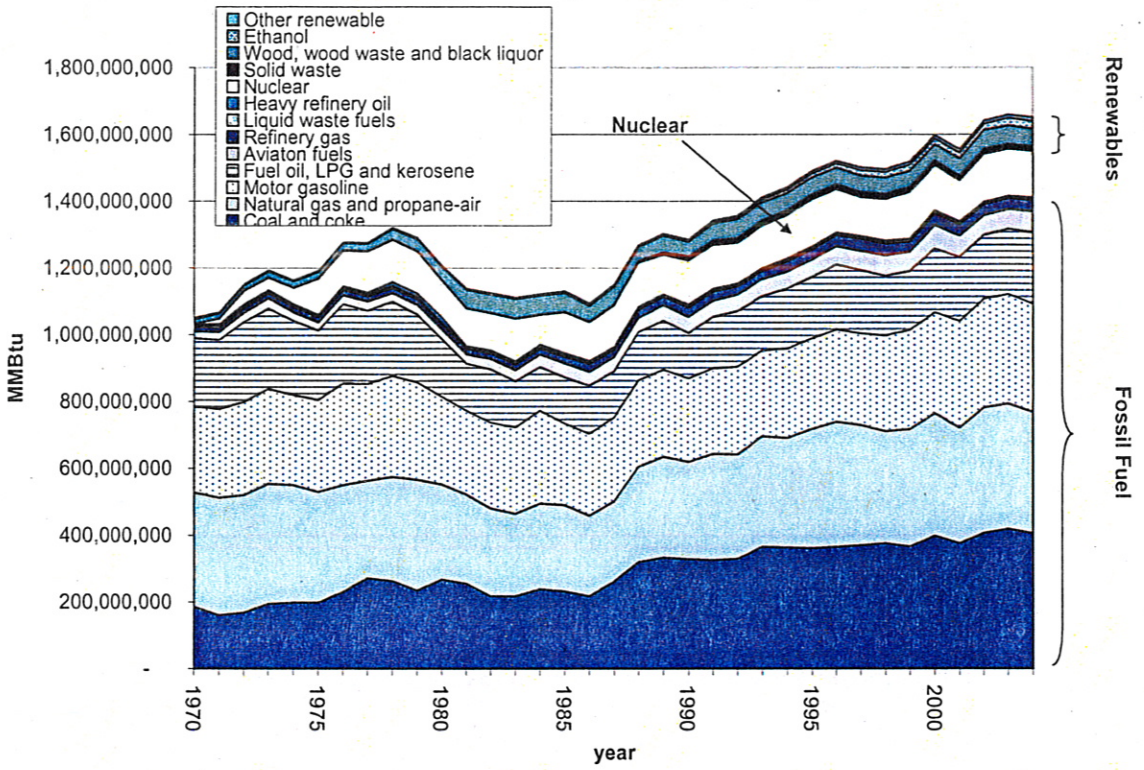


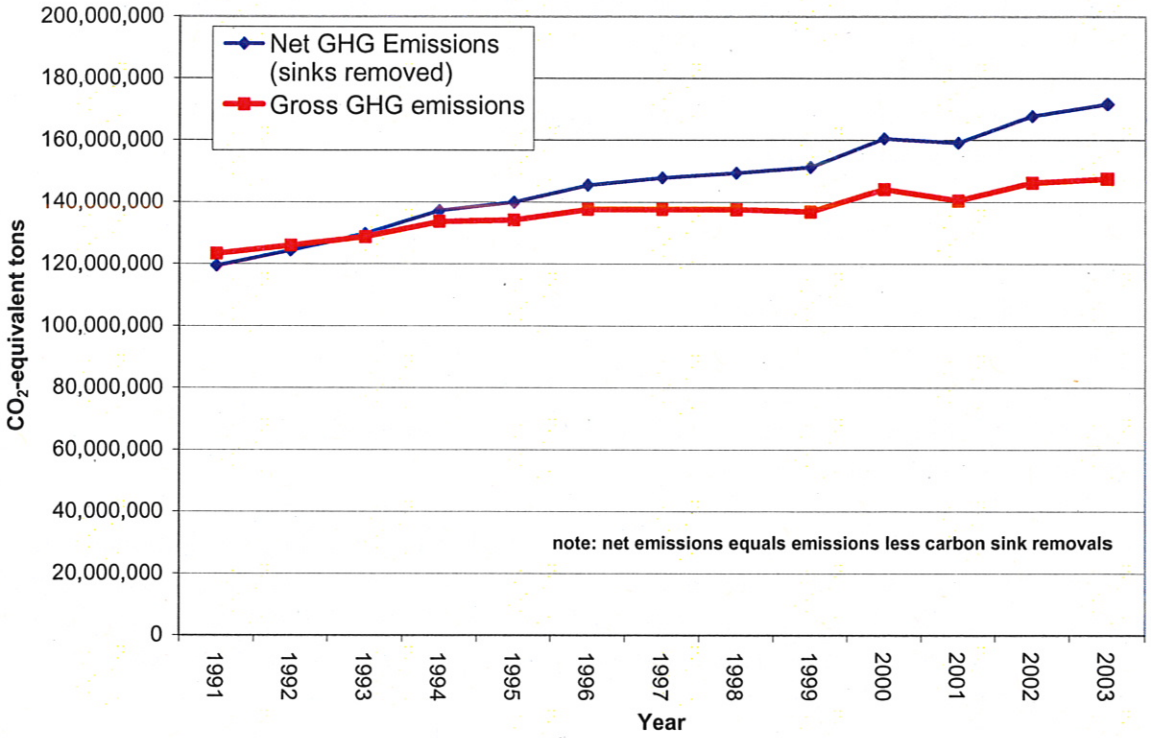
**Figure 4. Energy Consumption in Minnesota by Source**




Long-term biogenic storage (or storage in housing) acts to draw down the atmospheric stock of carbon through photosynthetic activity and attendant plant growth, and represents a net GHG emission reduction. Inversely, carbon is lost from forested land (or landfills, structures, wood products etc.) at the expense of the atmosphere. Carbon losses from these systems can be thought of as a net $CO_2$ emission.

In estimating the average annual change in carbon storage on Minnesota forestland, a polynomial equation was fit to the USFS-FIA data, resulting in a parabola-shaped trend in carbon storage, peaking about 1996. Adding this to the inventory data yields a net GHG emission trajectory that departs markedly from that of Figure 1. Incorporating the trend in carbon storage acts to strongly suppress net GHG emissions early in the trend period (e.g., 1970-1985), but also to add a new emission source between 1990 and 2004. According to this calculation, by 2004 this new source of emissions might be equal to some 25 million CO2-equivalent tons annually (see figure 5 below).

**Figure 5. Gross and Net Greenhouse Gas Emissions from Minnesota 1991-2003**




There is some debate whether biogenic carbon sequestration and emission should be included in GHG inventories. Emissions of long-lived GHGs are evaluated using, among other things, well defined residence times of these compounds in the atmosphere. By definition, the persistence of any small changes in aggregate carbon storage in biological systems is uncertain; it is possible that what now appears to be a net emission of carbon from Minnesota forestland could turn about in the next decade and become a net gain in storage. Given that, it has been suggested that it is inappropriate to treat short-term gains or losses of carbon from biological systems on the same basis as emitted fossil $CO_2$, with its reasonably well understood 200-year atmospheric lifetime.

Caution should be taken with emission inventory estimates for 2002 to 2004. Some of the underlying data are preliminary in nature and subject to revision. In some cases current year activity data were not available, in which case data for the most recent year that was available were used. In addition, in some cases, estimates for GHG emissions for earlier years have been updated and/or corrected using new quantification methods and revised historical information on activity levels.[1] Caution should be taken in comparing the inventory information above with earlier estimates released by the MPCA.

[1] Historical activity level data are frequently 'corrected' by the collecting Federal agencies. Changes to the inventory are made annually to reflect the most recent Federal data revisions. In the MPCA GHG inventory, methodological changes are rolled into the inventory each year as they become available.

There are questions about the comparability of recent and earlier USFS-FIA estimates of green tons of biomass (hence changes in carbon storage) on forestlands. Thus the results for net emissions shown in Figure 5 should be viewed as provisional.

Finally, not included in this analysis are a number of yet unresolved GHG emission sources and sinks. Principal among these include:

- eutrophied surface waters
- commercial chillers
- industrial waste-water treatment
- wetlands conversion
- agricultural drainage
- agricultural tillage (with regard to soil organic carbon loss or gain)
- urban soils and the urban forests.

It is possible that a number of these emission sources or sinks could be large. Additionally, it may be that the use of biochemical models for estimating soil emissions would yield substantially higher GHG emission totals that are given above, largely due to the high carbon content of our agricultural soils and soil wetness. This factor may need to be considered in future GHG emission inventories.