

To: CCAG Members
From: Karl Hausker
Center for Climate Strategies
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Re: Proposed Technical Change to GHG Inventory and Projections

This memo lays out a proposed technical change in the *New Mexico Greenhouse Gas Emissions Inventory and Reference Case Projections, 1990-2020* (hereafter referred to as *Inventory and Projections*). The draft of this document was approved at the 3rd meeting of the CCAG in January 2006. CCS would like the CCAG to review and approve this technical change. CCS has discussed the change with NMED but also awaits their final review and approval.

The proposed change grows out of our own final internal review of all documents and numbers, as well as the insightful and helpful comments of several stakeholders. The proposed change would not affect the estimates of the GHG reductions or costs associated with any policy recommendation, nor would it affect whether the CCAG recommendations can meet the Governor's targets in his Executive Order. (Those targets are met with or without this technical change, according to the final scoring of options.) The sections below discuss the current version of the *Inventory and Projections*, the need for the technical change, and the specifics of what would change.

As you may recall from early CCAG discussions, the *Inventory and Projections* presented GHG emissions using four approaches: gross production, net production, gross consumption, and net consumption. "Gross vs. net" refers to whether carbon sequestered and released from biomass throughout the State is subtracted from all the "gross" sources of emissions into the atmosphere (principally from fossil fuel combustion and other industrial activities). "Production vs. consumption" refers to whether one or more sectors of the economy is treated on a "consumption basis" because the production of output of that sector is substantially greater or lower than what is consumed in the state, and because the output in question is relatively GHG-intensive.

The most commonly cited example is electricity generation. The questions typically posed are these: If a state imports a very large portion of its electricity, is it useful from an accounting and policy point of view to consider the state responsible only for the electricity it produces in-state? Conversely, if a state exports a very large portion of its electricity, is it useful to consider the state responsible for all the electricity it produces in-state, regardless of what it consumes? Having examined these questions, California, Oregon, Washington, and other states are developing consumption-based approaches to electricity-related emissions. In drafting a consumption-based approach in the *Inventory and Projections*, CCS applied that lens to the electricity sector. Because New Mexico exports substantial power, the consumption-based approach resulted in lower GHG emissions from the electricity sector than in the production-based approach. In the former case, the total emissions from power plants in the state were scaled back by the proportion of power that was consumed in-state.

The draft *Inventory and Projections* also applied a consumption-based approach to the fossil fuel production sector.¹ There is an arguable analogy here: this sector produces a GHG-intensive product

¹ Includes extraction, processing, and some transport of the fuel. This discussion focuses solely on fossil fuel production, not its end-use combustion which is accounted for in various categories in RCI, transportation, and as an input to electricity generation.

for which the State produces far more than it consumes. This approach resulted in reducing emissions from the fossil fuel sector by about 2/3 from what they would be under a production-based approach. However, there is a strong case for making a technical correction to the consumption-based portions of the *Inventory and Projections* by changing the fossil fuel sector estimates to a production basis:

1. The fossil fuel policy recommendations (ES-11, ES-12 and ES-13) are “scored” on a production basis, i.e., the reductions associated with those options are based on the total fossil fuel production in the state. Aligning the methodology of the projections with the scoring assures “apples to apples.” This is already done for the electricity options in Energy Supply by scoring the options on a consumption basis.
2. Fossil fuel production is not “mobile” the way that power plants are. A major argument for using the consumption-based approach to electricity is that production-based accounting might create incentives to simply produce power out-of-state and import it back in. This analogy doesn’t hold for fossil fuel – the geologic deposits cannot be moved out-of-state.
3. Finally, there is no precedent at the state or national level for treating fossil fuel production on a consumption basis.

If the CCAG and NMED approve this technical correction it would have the effect of increasing the consumption-based annual figures by about 13 MMtCO₂e in 2010 and 2020 (while also raising 1990 and 2000 estimates). These proposed changes are marked in “track edits” and with underlined red italic text in the latest version of Table 2-2 of Chapter 2 of the report. Parallel text changes appear, too. A key point to remember is that this technical change does not propose any “new” numbers. It merely takes the existing fossil fuel production-based sector estimate from Table 2-1 and drops it down into Table 2-2, replacing the consumption-based sector estimate. From there, various subtotals and totals change. If this technical correction is accepted, CCS will also make corresponding changes in the final inventory and projections which constitutes Appendix D.

The current draft of the Executive Summary assumes that this change is accepted. E.g., in Figure ES-1, emissions in 2020 are projected to be about 70 MMtCO₂e, up from about 57 MMtCO₂e in previous drafts (reflecting the additional 13 MMtCO₂e cited in the preceding paragraph). If the CCAG and NMED do not approve, all projections will revert to their earlier levels.

Final note: CCS also found a small error in the 2020 projection for the electricity sector. Correcting this error increases MMtCO₂e by 0.7 in that year for the production-based approach (and 0.4 for the consumption-based approach). This explanation appears as proposed text in footnote 9 of Chapter 2: “The highlighted numbers here reflect a minor update to the original inventory and forecast report. A reporting error for coal-based electricity production, whereby coal-based electricity production was held flat 2018-2020, was found and fixed. The net effect is to increase emissions by 0.7 MMtCO₂ in 2020 emissions, as shown here. All analysis of RCI and ES options use these updated numbers.” CCS hopes this small technical correction is acceptable, too.