

**Comments on “The First State of the Carbon Cycle Report” SOCCR/SAP 2.2  
(January 31, 2007, version)  
Economics and Statistics Administration**

Note: The comments apply to the *Executive Summary*. As the full text follows the *Executive Summary* closely, the more general comments should be read to apply to the related sections of the full report.

<b>Comment Number</b>	<b>Comment</b>	<b>Comment Accepted</b>	<b>Comment Rejected (and Rationale for Rejecting Comment)</b>
1	The report gives totals for carbon emissions from the United States, Mexico, and Canada. It might be more meaningful to include per capita as well as total numbers. While totals matter, the relative contribution of the countries clearly depends a lot on population, and comparisons of the contributions of the different countries require some acknowledgement of the population differentials.	Per capita numbers were added to the <i>Executive Summary</i> .	
2	Page ES-4, line 27: The world “also” is redundant.	Corrected	
3	Page ES-5, lines 3 to 11. The calculations are a bit hard to follow. The earlier paragraph suggested that the North American carbon sink was 50% of the global total, while this paragraph claims it is 25% of the global total.	Text added to clarify	
4	Page ES-5, lines 2 and 12: Why is so much of the global carbon sink in North America alone (50%) and in northern lands? This appears counterintuitive, given the supposed importance of rainforests (although perhaps they aren’t sinks since they aren’t growing?) Should clarify.	Text added to clarify. It is correct, that because rainforests are not growing they are not sinks.	

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5	Page ES-5, line 33 gives an “approximate” number of “1856.” Since it is approximate, it should be rounded to 1,900.	Corrected	
6	Page ES-6, line 19-20, “carbon intensity (carbon emitted/dollar of GDP)” This implies that their carbon intensity is based on a nominal rather than a real (inflation adjusted) GDP. If it is real, then we suggest that the word “real” be inserted between of and GDP and that the dollars of GDP growth be consistent with the BEA data (see number 7, next).	They are based real inflation adjusted dollars. The text has been revised to reflect this additional information.	

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7	<p>Page ES 6, lines 17-26. What is the ultimate source of these figures? We cannot verify them. According to the Bureau of Economic Analysis, real GDP grew 3.1% on average per year from 1980 through 2005 (the last three decades, but not 30 years). During the same time period, the goods portion of real GDP, which includes manufacturing, rose by an average 3.7% while the services portion of GDP rose by 2.9%. The goods portion of real GDP growth also includes expenditures for trade margins and transport costs of imported goods distributed within the U.S. and transportation services are fairly energy intensive.</p> <p>We can also compare the real “value added” by domestic industries which excludes the value of intermediate inputs and eliminates double counting of production across industries. Between 1980 and 2005, real value added in manufacturing rose by an average 3.2% per year while real value added in services rose by 3.5%. Since value added is an income concept, these growth rates can be directly compared to real 3.1% average annual GDP growth rate. The figures used in the report need to be carefully reconsidered before inclusion in this report.</p> <p>It appears that the authors are implying that the manufacturing sector is shrinking leading to the reduction in carbon intensity. While this may be true in terms of employment, it is not true in terms of output. The manufacturing sector has become much more efficient both in terms of employment per unit of output (labor productivity) and energy efficiency.</p>	<p>The text has been revised to avoid misconception or implication/inference, and the reader is now referred to Chapter 3 and the references in that chapter.</p>	

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8	Page ES-6, line 27-28: Electricity generation is usually classified as a service, not a “commodity.” This description seemed a bit confusing, since it seemed at first glance to apply to transportation as well. Also, it seems to lump together electricity generation with direct energy use for heating and cooking (residential and commercial). Is there some reason not to use the usual Energy Information Administration sectoral categories (residential, commercial, industrial, electricity, transportation)?	<p>We have added the terms “and services” before the phrase “including electricity generation”</p> <p>Also, we prefer to use the category “buildings” in place of categories such as residential and commercial because of the extensive research on this aspect of the operation of these sectors, which constitutes the vast majority of emissions from them. Also, the text as it now stands does separate electricity generation from end use.</p>	
9	Page ES-6, lines 27-34, and paragraphs following: Here per capita numbers would be a particular help in comparing the relative importance of each country, particularly since it sets up for the policy discussion following.	Per capita data have been added as per the comment.	
10	Page ES-6 to ES-7: The three sectors described account for 83% of emissions. Where is the other 17%?	Numerical values in the text have been revised, and a new paragraph has been added to discuss the 17% (now revised to 15%) mentioned in the comment.	

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11	Page ES-9, line 17: The first and second parts of this sentence do not contradict each other, so “yet” is not necessary.	We have rearranged the paragraph to read: “The density and development patterns of human settlements are drivers of fossil-fuel emissions, especially in the important residential and transportation sectors. Conversion of agricultural and wildlands to cities and other human settlements reduces carbon stocks, while the growth of urban and suburban trees increases them. However, the rates of carbon uptake and storage in the vegetation and soils of settlements, while poorly quantified, are probably relatively small, certainly in comparison to fossil fuel emissions from these areas. Thus, settlements in North America are almost certainly a net source of atmospheric carbon.”	
12	Page ES-11, line 30-34. It is potentially misleading to claim that policy interventions to limit carbon emissions can have a “co-benefit” of increased economic efficiency. From a purely economic point of view, the non-regulated state is more efficient—i.e., delivers goods and services with the fewest resources. Regulation may be beneficial in many ways, but it will not enhance pure economic efficiency. Indeed, it must make the economy <i>less</i> efficient (that is why there is a “cost in terms of utilization of resources” as mentioned above. Suggest striking “economic efficiency” from line 33.		We have inserted the following in parentheses after the term economic efficiency: “(where market failures are being corrected, as in many cases of energy conservation)”