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December 19, 2001

Subject: Preparation of Third U.S. Climate Action Report

Reference: Federal Register, Volume 66, page 57456-7, November 15, 2001.

Ford Motor Company (Ford) hereby submits comments to the Environmental Protection Agency's November 15, 2001 Federal Register notice on the Preparation of Third U.S. Climate Action Report. Our review of the draft U.S. Climate Action Report has uncovered a few issues that should be addressed before the report is published. Suggested revisions to the document follow. Minor changes of a typographical nature are found in Attachment 1.

Chapter 1: Introduction and Overview

Page 2, lines 29-38 - The first and last sentences of the paragraph are inconsistent with the tone of the remainder of the document and appear to be more editorial than factual. Ford recommends that the paragraph be revised as follows:

Climate change is a ~~problem that requires 100% effort — ours and the rest of the world's.~~ This long-term problem, decades in the making, *that* cannot be solved overnight. A real solution must be durable, science-based, and economically sustainable. In particular, we seek an environmentally sound approach that will not harm the U.S. economy, which remains a critically important engine of global prosperity. We believe that economic development is key to protecting the global environment. In the real world, no one will forego meeting basic family needs to protect the global commons. Environmental protection is neither achievable nor sustainable without opportunities for continued development and greater prosperity. Our objective is to ensure a long-term solution that is environmentally effective, economically sustainable, and fair. ~~Protecting the global environment is too important a responsibility for anything less.~~

Page 3, lines 9, 10 - Incorrectly represents the conclusions the NRC found in Chapter 5 of their Report, *Climate Change Science; An Analysis of Some Key Questions*, (NRC 2001). Ford suggests the following clarification of the first sentence.

Greenhouse gases are accumulating in *the* Earth's atmosphere *in part*, as a result of human activities, causing global mean surface air temperature and subsurface ocean temperature to rise.

Chapter 2: National Circumstances

Page 13, lines 7-11 – The fuel consumption of passenger cars included in the report is consistent with the ORNL data for on-road fuel consumption. The wording in the paragraph should make it clear that the values supplied represent the fuel consumption of the on-road fleet, not the fuel economy of the new passenger car fleet. In addition, it would be beneficial to include the source document for this and other technical data contained in the report. The paragraph should be revised as follows:

These increases have been significantly offset by enhanced efficiency. This can be attributed to a combination of factors, including the implementation of Corporate Average Fuel Economy (CAFE) standards for new cars, and improved average fuel consumption per kilometer, from a low of 18 liters per 100 kilometers (slightly over 13 miles per gallon) for *the on-road* passenger cars *fleet* in 1973 to 11 liters per 100 kilometers (slightly over 21 miles per gallon) in 1999.

Chapter 3: Greenhouse Gas Inventory

Page 7, lines 26-35 - Comparisons are made relative to energy requirements under "normal" conditions. The definition of "normal" is not presented and should be defined.

Page 10, lines 4-9 and 20-24 - The discussion of global warming potentials is a mixture of references to GWPs and radiative forcing. Radiative forcing is the "instantaneous" impact of greenhouse materials on the atmosphere on the radiative properties of the atmosphere at the tropopause. The GWP of a material is a measure of that material's absorption of infrared radiation in the "atmospheric greenhouse window" relative to carbon dioxide (on a mass basis). Unlike the radiative forcing of a material, GWP incorporates the lifetime of the material in the atmosphere. References to radiative forcing should be removed from this section.

Gases *and particles* in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when *a gas* itself is a greenhouse gas, *i.e., it absorbs heat energy radiated from the earth's surface, or when a particle absorbs or reflects incoming solar visible and ultraviolet light*. Indirect radiative forcings occurs when chemical *or physical* transformations of the original gas *or particle* produce ~~a gas or gases that are~~ *other* greenhouse gases, when a gas influences the atmospheric lifetimes of other *greenhouse* gases, and/or when a gas *or particle* affects other atmospheric processes that alter the radiative balance of the Earth (e.g., ~~affect~~ cloud formation or *surface* albedo). The concept of a global warming potential (GWP) has been developed to compare the ability of each greenhouse gas to trap heat in the atmosphere relative to another gas.

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The GWP of a greenhouse gas is the ratio of global warming, ~~or radiative forcing—both direct and indirect—~~ from one unit mass of a greenhouse gas to that of one unit mass of CO₂ over a *specified* period of time. While any time period can be selected, the 100-year GWPs recommended by the IPCC and employed by the United States for policymaking and reporting purposes were used in this report (IPCC 1996). GWP values are listed in Table 3–6.

Page 10, line 31-32 - In an equilibrium, carbon fluxes between all sinks and sources are exactly balanced. This was the situation in pre-Industrial era times when the atmospheric concentration of CO₂ remained constant at 275-280 parts per million for thousands of years. The fact that CO₂ in the atmosphere has been increasing since about 1800 indicates that the carbon flow through the environment is not in balance, *i.e.*, sources slightly outweigh sinks. Therefore the last sentence should be changed to:

When in equilibrium, carbon fluxes among these various reservoirs are ~~roughly~~ balanced.

Page 12, lines 24-29 and reference number 14 – The Executive Summary of EPA's report "US Greenhouse Gases: 1990-1999" indicates that in 1999, transportation activities (without bunkers) accounted for 29.5% of CO₂ emissions from fossil fuel combustion as compared to 31% reported on line 24. Even with the inclusion of bunkers, the contribution is only 30.8%. These numbers require reconciliation, and the information for the other sectors should also be checked.

Page 23, lines 8,9 - The 2001 IPCC report concluded that the overall effect of SO₂-derived aerosols on radiative forcing is negative. The sentence in lines 8 and 9 should be revised as follows:

The overall effect of SO₂-derived aerosols on radiative forcing is ~~believed~~ negative (IPCC 1996-2001).

Chapter 4: Policies and Measures

Page 13, lines 23-25 – The discussion on PNGV should be updated to reflect the latest status. Since the focus of the program has changed to research long-term solutions via component and system design, the last sentence in the paragraph should be deleted.

Chapter 6: Impacts and Adaptation

The discussion of impacts of climate change in this chapter is based on the U.S. National Assessment in the 2000 NAST Report. This report remains highly controversial, and was, at that time, the subject of considerable debate with regard to its scientific and policy discussions. The most contentious aspects of the report were (1) the use of the most pessimistic projects of potential climate impacts, with little or no discussion of the uncertainties involved in such projections; and (2) the use of global climate models to predict impacts on regional climates within the U.S.

Global climate models cannot be used to project changes in regional climate, primarily because of insufficient spatial resolution and their inability to represent regional phenomena such as clouds. As was pointed out when the National Assessment was in review, the regional projections from the two climate models used often provide diametrically opposed projects for regional climate, making it impossible to determine which (or either) is (are) correct. Further, attempts to average the results from the two models are also without scientific basis.

Thank you for your attention to these comments. Please contact Peg Gutmann at 313-594-0400 if you have any questions.

Sincerely,

W. M. Kreucher

Minor Comments

Chapter 1: Introduction and Overview

Page 3, line 40 – typographical error. The word "us" should be changed to "is."

Chapter 2: National Circumstances

Page 13, lines 28-43 – It is unclear how the section on TEA-21 aligns with the discussion on the transportation energy consumption. The paragraph would be better placed in another chapter, such as Chapter 4.

Chapter 4: Policies and Measures

Page 1, line 20 should read "The United States **government** is"

Pages 5, 10, 11 – Many of the symbols used in the document are not being converted properly by the PDF writer – "\$" is being substituted for bullets.

Chapter 5: Projections

Page 15: The table reference on lines 3 and 24 should be to Table 5-7.

Various pages – Many of the symbols used in the document are not being converted properly by the PDF writer – "B" is being substituted for dashes and "=" for apostrophes.