March 17, 2017 Comments can be sent to GHGInventory@epa.gov.

Dear Ms. Desai,

I am submitting a few comments on the EPA's draft *Inventory of US Greenhouse Gas Emissions & Sinks: 1990-2015.* As I did last year, I have focused on a few keywords that are critical to the lay-person's understanding of energy-related CO2 trends. My comments/suggestions (in blue font) are listed below the EPA statement(s) (in black font) and keywords are in red font.

Feel free to contact me by email at [redacted] or by phone [redacted] if my points are not clear.

keyword = "energy" and "non-energy"	
page	**EPA Statement with My Comments/Suggestions Below**
2-10	"The remaining 18 percent came from other energy sources such as hydropower, biomass, nuclear, wind, and solar energy (see Figure 2-5 and Figure 2-6)".
	Add the '2015 U.S. Energy Consumption by Energy Source' pie chart (e.g. Figure ES-12 on page ES-19) to show all categories of energy sources. Figure 2-5 and Figure 2-6 are incorrectly referenced for this statement. Add a statement to the introductory paragraph about what is presented in Figures 2-5 and Figure 2-6.
3-7	Figure 3-4: "U.S. Energy Consumption (Quadrillion Btu)"
	(1) change the scale of the y axis to provide more detail; (2) add gridlines so that energy consumption can be read more easily from the graph; (3) It appears that data for energy consumption + consumption of fossil fuels for non-energy use have been graphed with a peak of about 100 qBtu in 2007. From my estimates, using fossil fuel energy data provided in Table A-18 of EPA's draft Inventory and nuclear and renewable energy provided in the EIA's MER, total energy consumption in 2007 peaked at about 93 qBtu.
ES-19, 2-10	"In 2015, approximately 82 percent of the energy consumed in the United States (on a Btu basis) was produced through the combustion of fossil fuels...".
	From my estimates, in 2015, total fossil fuel energy in the US (not including US Territories) amounted to 71.8219 qBtu (using data in Table A-11 of the EPA's Inventory Annexes). Nuclear and renewable energy (including geothermal energy) and imported electricity amounted to 18.014 qBtu (using data in EIA's February 2017 *Monthly Energy Review,* Tables 1.3 and 2.6). So fossil fuel energy was about 80% of total energy consumed in 2015.
2-10, 3-1	Figures 2-5, 3-1: "2015 Energy Chapter Greenhouse Gas Sources (MMT CO2 Eq.)"

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	The scale of the bar chart deemphasizes the significance of fossil fuel combustion:- Shorten the "bar titles" so that the bar representing "fossil fuel combustion" can be lengthened. Redoing the adjacent piecharts of these figures, to show "fossil fuel combustion emissions" as a percent of total US greenhouse gas emissions (5,049 MMTCO2 Eq. is 77% of 6,586.2 MMTCO2 Eq) would help readers see why climate change policy should be centered on reducing fossil fuel consumption.
keyword = "carbon intensity" and "C-intensity"	
page	**EPA Statement with My Comments/Suggestions Below**
2-3	"Energy-related CO2 emissions also depend on the type of fuel or energy consumed and its C intensity. Producing a unit of heat or electricity using natural gas instead of coal, for example, can reduce the CO2 emissions because of the lower C content of natural gas".
	Explain that the carbon intensity of an energy mix is the energy-weighted average of the CO2 emission factors of all energy sources in the mix including carbon-free/neutral energy sources. Provide a table of CO2 emission factors for all energy sources including nuclear and renewable energy and/or refer readers to Table A-39: "Key Assumptions for Estimating CO2 Emissions" in the *Annexes to the Inventory* with an explanation on how to convert "carbon content coefficients" to "CO2 emission factors". Describe the decarbonization of the US electric power sector between 2005 and 2015, as done on page 3-14.
ES-12	(a) "Recently, a decrease in the carbon intensity of fuels consumed to generate electricity has occurred due to a decrease in coal consumption, and increased natural gas consumption and other generation sources. Including all electricity generation modes, electricity generators used natural gas for approximately 33 percent of their total energy requirements in 2015".
	Clarify the decarbonization of the primary energy consumed to generate electricity (qBtu) (e.g. 37% coal; 36% nuclear and renewable; 26% natural gas; 1% oil products in 2015) and/or the electricity generated (kWh) (e.g. 34% coal; 33% nuclear and renewable; 32% natural gas; 1% oil products in 2015) with a breakdown of energy groups in the mix and provide a piechart.