

Preliminary Carbon Footprint for Kansas State University

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Introduction

As concern about climate change increases, greenhouse gas inventories (carbon footprints) are being increasingly used as a measure of sustainable practices and a baseline for improvement by governments, businesses, universities, and even individuals. The United States publishes a national greenhouse gas inventory report, as required by the United Nations Framework Convention on Climate Change (UNFCCC). The State of Kansas asked all permitted air sources emitting over 10,000 tons CO₂ equivalent emissions to submit a GHG inventory for the 2007 calendar year. Interest in measuring greenhouse gas emissions will continue to grow.



What is a Carbon Footprint?

A Carbon Footprint is a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases emitted. The amount of greenhouse gas emissions are measured and converted to the units of carbon dioxide equivalents. The most common greenhouse gases are carbon dioxide from fossil fuel sources, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride.

K-State Carbon Footprint

Energy, waste, water, and transportation data for fiscal year 2007 collected by a group of students preparing a paper for the Natural Resources and Environmental Sciences Capstone Course were used to calculate a preliminary carbon footprint for the Kansas State University main campus. Using these data, K-State has a carbon footprint of about 94,231 metric tons CO₂ equivalents. Energy for utilities is about 92% of the total greenhouse gas emissions reported. The agricultural operations associated with research farms are not included.

In comparison, 2007 reports for the University of Pennsylvania and Purdue report carbon footprints of about 320,000 and 670,000 CO₂ equivalents, respectively. These are more comprehensive reports. Energy for utilities accounts for about 83% (Purdue) to 90% (Penn) of the total.

K-State Preliminary Carbon Footprint (measured in metric tons CO₂ equivalents)

Purchased Electricity	86,317
Natural gas (space and water heating)	31
Wastewater treatment	2,417
Motor pool gasoline	717
Motor pool diesel	3
Faculty commuting estimate	2,967
Student commuting estimate	1,778
Other (No data)	
Total estimate	94,231

Energy and resource data provided by "Green Campus", a capstone project by Scott Chaput, Christopher Frampton, Shane Patterson, and Ryan Webster