



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Duncan C. Hosie	Project Number J1019
Project Title Is Global Warming Real? A Study of Atmospheric Temperature and Carbon Dioxide Emissions	
Abstract Objectives/Goals One Hundred Years Ago, Swedish Chemists developed the first theory connecting pollution to warmer global temperatures. They claimed emissions from coal combustion would raise the average temperature of the earth significantly, causing devastating consequences. Although accepted by a handful of scientists, the team was shunned for their efforts. The Swedish and International Community disgraced the team, and their lab was permanently shut down. Today the same attitude prevails about Global Warming for some, but for others it is embraced and supported. My goal was to end generations of confusion. Methods/Materials I covered a basketball in aluminum foil, Centered on a glass vase, an extremely heat sensitive thermometer was positioned on top of the globe. All of this was held in a Plexiglas box. Two infrared heat lamps were faced towards the globe, outside the Plexiglas box. For 15-minute increments, I ejected varying amounts of carbon dioxide into the Plexiglas container to see how the temperature changed. Basically, I set up a model of our planet, our atmosphere, and the sun, with the ability to add carbon dioxide gas. I found that with more carbon dioxide, the temperature inside the box increased dramatically. Results The more carbon dioxide put into the box, the higher temperature at the end of the fifteen minutes. What I found not only proved that Global Warming is real; it also verified the larger consequences. Conclusions/Discussion After the project results were in, I compared my graph to the more commonly available graphs on predicted global temperatures. I found that my slope line was extremely similar to sections of the other graphs in the early 2050s. Therefore this project proves the problems associated with global warming including devastating increases in global sea levels, millions of animal extinctions, stronger and larger hurricanes, etc. It is essential to our younger generation that cut carbon dioxide emissions by a minimum of 80 percent or more. All the students presenting their projects today will be affected dramatically if we do not do anything about global warming.	
Summary Statement Global Warming has generated much controversy, and I wanted to see if it really is true.	
Help Received None	