June 1, 2015

His Holiness, Pope Francis Apostolic Palace 00120 Vatican City

Dear Pope Francis:

This letter is respectfully submitted on behalf of an independent, all-volunteer team of more than 20 retired NASA Apollo Program veterans, who joined together in February 2012 to perform an objective, un-funded, independent study of scientific claims regarding significant global warming caused by human activity, known as anthropogenic global warming (AGW). Our sole purpose and guiding force in conducting investigations regarding the future climate effects from unrestrained use of fossil fuels, is adherence to the truth of empirical science and evidence-based research, seeking the truth regarding the nature of the AGW threat. As you consider guidance you will give to Roman Catholics and indeed all people of good will, in your soon to be released encyclical on the environment, we would like to share with you what we have learned in our independent, objective study of the AGW issue.

We feel compelled to write you because we are deeply troubled by the statements generated by the Pontifical Academy of Social Sciences (PASS) advocating that manmade CO_2 is likely to cause a climate disaster that must be immediately mitigated by adopting United Nations' proposals to enact world-wide CO_2 emissions controls. Such statements ignore a large body of empirical evidence that calls this recommendation into serious question. The proof of how unsettled and uncertain current science stands on this issue is in the UN's official position in its recent IPCC AR5 report, that the uncertainty range for Equilibrium Climate Sensitivity (ECS) is 1.5C < ECS < 4.5C, due to doubling CO_2 concentration in the atmosphere. This factor of three uncertainty from low to high indicates incomplete scientific understanding of AGW.

Our research, based on analysis of readily available physical data, agrees with the lower end of this uncertainty range that does not suggest an imminent climate problem requiring drastic governmental action. The higher end of this uncertainty range results from un-validated climate model simulations for ECS, predicting climate conditions more than 1000 years from now, that have not and never can be validated by empirical data in the foreseeable future. Our strict NASA policies, based on common sense concepts of the Scientific Method, trained us to ignore projections of un-validated models for critical design or operational decisions involving human safety, and instead, base such decisions on available physical data.

Available data indicate we have time to improve the scientific understanding of the AGW issue before making critical decisions regarding CO_2 emissions, with potentially severe adverse consequences. This is especially true for the poor in developing nations who need unfettered access to relatively inexpensive fossil fuel energy

sources to improve their quality of life, while benefitting from higher atmospheric CO₂ levels that provide for immediate needs of increased food production.

Our research results and conclusions, published on our website in Feb. 2014 at: http://www.therightclimatestuff.com/BoundingClimateSensitivityForRegDecisions.pdf

defined a verifiable climate sensitivity metric, Transient Climate Sensitivity (TCS), similar to the UN's definition of Transient Climate Response, for global warming caused by doubling atmospheric CO_2 concentrations. This metric has much less uncertainty than ECS for projections of a few hundred years, more appropriate for better decisions that could be made now regarding need for CO_2 emissions controls. Our report also analyzed more recent peer-reviewed publications since 2010 than considered for the IPCC AR5 report, and all confirmed our conclusions that CO_2 climate sensitivity is not as high, nor as uncertain, as claimed in the UN IPCC AR5 report, and therefore places possible climate issues much farther into the future.

There is no compelling scientific or humanitarian reason for immediate enactment of world-wide CO_2 emission controls, as the UN is urging you to recommend in your soon to be released encyclical on the environment. This is especially true when we know that CO_2 is a very special colorless, odorless and non-polluting gas designed by our Creator to be an essential chemical compound for sustaining all plant, animal and human life. Climate science is a relatively immature and rapidly developing field of science. Current trends in research indicate climate alarms have been premature and that we have time to improve scientific understanding and remove uncertainty from projections to support better decision-making regarding the AGW threat. There are no known harmful effects of atmospheric CO_2 concentrations until they increase to more than 10 times the current 400 ppm level and exceed the 5000 ppm level allowed on the International Space Station. The most extreme IPCC AR5 projection without emission controls does not exceed 2000 ppm CO_2 . Our own projection is only 600 ppm for burning all economically recoverable fossil fuel reserves on the planet.

The significant benefits to feeding the world's growing population from the well-known fertilizing effects of greater atmospheric CO_2 concentrations, need to be carefully considered when advising humans on their responsibilities with respect to CO_2 emissions. So far, fossil fuels have been an extremely important gift from God. Do we really understand God's preference regarding CO_2 emissions? To do so will require a much better understanding of the climate vs. food production issues resulting from further scientific research and prayer for wisdom and discernment on this issue.

Respectfully submitted.

Harold H. Doiron, PhD

Harrelas Doin

Chairman, TRCS - The Right Climate Stuff Research Team

2604 Piney Woods Drive

Pearland, Texas USA 77581-5856