

# **A Sustainable Environment: Our Obligation to Protect God's Gift**

by  
George P. Nassos

## **The U.S. Can Learn From China Relative to Climate Change**

The Kyoto Protocol of 1997 was the first agreement between some 190 nations with goals to reduce carbon dioxide emissions. China, India and other developing nations were not bound by this agreement to limit their carbon emissions in the same time frame as the developed nations. The United States, which at that time was responsible for the largest portion of emissions affecting climate change, was one of the few countries not to ratify the agreement, primarily because of the exemption of the developing nations. Over the past 20 years, the economies of both China and India have grown significantly and now China is the greatest emitter of carbon dioxide in the world. However, on a per capita basis, the U.S. emits twice the carbon as China and eight times more than India.

There is a perception that China will continue to grow, continue to emit huge quantities of carbon, and not worry about its impact on climate change. Even though China is not bound to reduce its emissions until 2030, it is already taking action. In terms of automobiles, cars in China are required to have a fuel economy of 47 miles per gallon. On top of that, gasoline and diesel fueled cars will be banned in 2040.

The U.S. has been bound by the Corporate Average Fuel Economy (CAFÉ) standards which were passed in 1976, following the Arab fuel embargo of 1972, but didn't take effect until 1980. At that time they were set at 27.5 mpg but increased by Obama to 54 mpg beginning 2025. They have since been rolled back by the Trump administration and are currently around 34 mpg, much less than China's regulations.

China is really pushing electric vehicles which already represent 50% of new sales. Electric car sales in 2019 are expected to be about 1.6 million while the U.S. sold around 350,000 last year. Carbon emissions from an electric vehicle are 50% less than a gasoline vehicle if the EV is charged from a coal-fired power grid. If the electricity is derived from solar or wind, the carbon emissions fall by 95%.

China has also taken a strong position on electric buses. There are currently about 385,000 electric buses in the world, and about 99% of them are in China. The city of Shenzhen with a population of 12 million currently has 16,359 electric buses and about 22,000 electric taxis. The United States has a total of about 300 electric buses.

The governments can force the decrease in emissions by methods like a carbon tax or a cap-and-trade system. In a cap-and-trade, organizations are limited to the quantity of carbon dioxide equivalents that can be emitted but can purchase additional quantities from other organizations that have not used their full allowance. The U.S. is fortunate that California instituted such a program in 2013, but unfortunately a cap-and-trade does not exist anywhere else

in the U.S. China, on the other hand, launched seven carbon market pilots in 2013 and 2014 for five cities and two provinces, which include Beijing, Shanghai, and Guangdong. These seven programs cover over 3,000 emitters with total annual emissions 1.4 gigatons of carbon dioxide.

In terms of power generation, China is moving rapidly to reduce carbon emissions. About ten years ago, it had a program to open a new coal-fired power plant each week for the following thirteen years. It has cut back in that program and is now focusing on renewable energy. In 2017, close to \$280 billion were invested in renewable energy worldwide and almost 50% of it was by China, amounting to three times the investment by the U.S. In 2016, China generated 78 GW of solar energy compared to 40 GW by the U.S. However, China added another 55 GW in 2018.

At a recent conference, The Business of Climate Change, one of the speakers was Richard Sandor, who founded the Chicago Climate Exchange and a similar more successful carbon exchange in the EU a number of years ago. Focusing on what is happening globally to reduce carbon emissions, not just in California and China but in the EU and other parts of the world, he said, somewhat sarcastically, that the success of national carbon markets is proportional to the distance from Washington, D.C. Here in the U.S., we have everything it takes to reduce carbon emissions and fight climate change. We just need to get moving on fighting climate change.