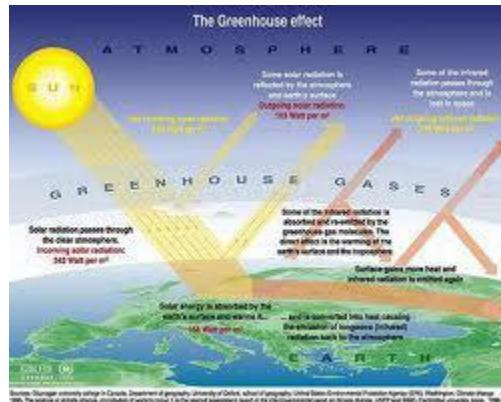


Global Warming and GHG: Where are we?



President Obama plans a new effort in his second term to address climate change. No specific actions were mentioned in his inaugural address, but they will presumably be outlined in his State of the Union speech. Regardless of what he says, there will be a huge amount of opposition in Congress to any legislation intended to slow down the emission of carbon dioxide – the key greenhouse gas (GHG)- into the atmosphere.

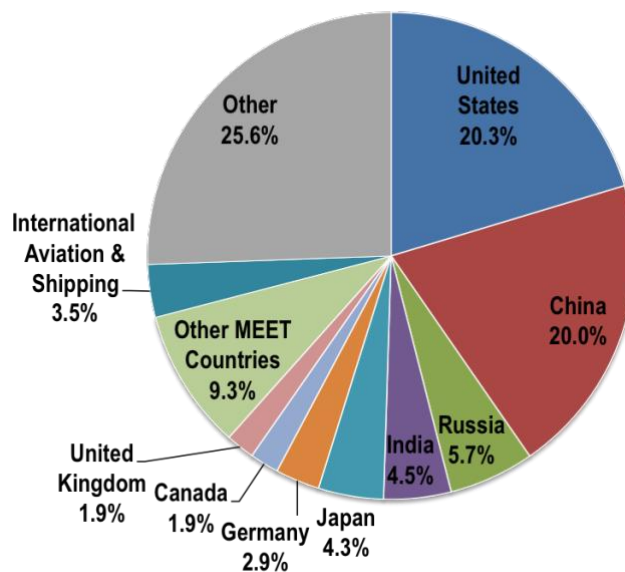
Obama's first attempt was to introduce a so-called Cap-and-Trade bill, an approach where allowable GHG pollution (e.g. from coal-fired utilities) is reduced (capped) every year by law, with heavy polluters buying permits from lower polluters to get the entire industry into year-to-year compliance. This approach failed to pass Congress. A simpler approach is to levy a "carbon tax" on users of fossil fuels. Utilities using a lower carbon fuel source (e.g. natural gas) or no carbon fuel at all (nuclear, hydroelectric) would have a great financial advantage. In the case of either a carbon tax or cap-and-trade, the increased cost of generating electricity would be passed on to the public through a higher electric rate base.

While there will be strong opposition in Congress to either approach, *Rolling Stonemagazine*, in the January 31st issue, suggests that the billions of dollars collected by the Federal Government with such a tax would be a good source of revenue to reduce the deficit, even if some of the money is rebated to poorer segments of the population. Unfortunately, the very high cost to the public of reducing GHG emissions must be weighed against the surprisingly small effect such expenditures would have on global warming. In a recent WSJ article, Bjorn Lomborg, a well known leader in thinking on this subject, said that the European Union's goal of reducing emissions by 2020 to 20%

below 1990 levels would cost \$ 250 billion annually and would reduce the earth's temperature by only one tenth of a degree Fahrenheit by the end of the century(!). This figure may well be disputed, but even if it is a full degree, it gives cause for reflection. Supporters of a carbon tax would say, moreover, that regardless of the numbers, such a step would get countries to use less fossil fuels in favor of greener energy sources.

The graphic shows that China and the U.S. are emitting about the same amount of GHG, though U.S. emissions are actually delining slightly while China's and India's are increasing rapidly. Opponents of legislation will point out that a meaningful decline in U.S. emissions will have little effect on the overall picture.

Lomborg believes that GHGs are responsible for global warming. He also says that there is little we can do to forestall the rising of the seas and the many effects of climate change. He believes that the money spent on GHG emission reduction should be spent on sea walls, on adding storm doors to subway systems and making other "fixes" similar to what the Dutch have long done to protect their country from floods. And to spend much more money than is currently spent on research and development of green energy sources: more efficient solar panels and wind turbines and new forms of green energy not yet visualized.



Source: <http://chemengineeringposts.wordpress.com/2013/01/31/global-warming-and-ghg-where-are-we/>