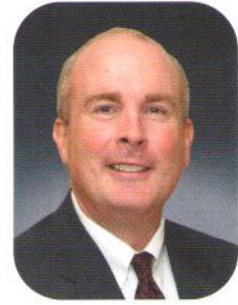


An Energy-Irony Timeline



By John Harpole

It was the Holy Grail, the bedrock for international law related to man-made global warming. Quite simply, it was central planning at its finest. The 1997 Kyoto Protocol was intended to be an effort to control worldwide carbon dioxide (CO₂) emissions.

In a stunning development that no one forecasted, the U.S. Energy Information Agency (EIA) announced recently that 2012 U.S. CO₂ emissions *decreased* to 1992 levels.

The irony? The U.S. did not ratify the Kyoto Protocol and was sharply criticized as a result. Yet we are the first major industrialized nation to meet its standards. In large part, this was done by burning less coal to generate electricity and converting power plants to natural gas.

Here is a short timeline of what transpired with the Kyoto Protocol and the unforeseeable and unpredictable energy events that derailed the central planners' best efforts:

- 1996**—Growing concern among environmentalists about manmade global warming.
- 1997**—Kyoto Protocol on climate change negotiated in December 1997, calls for industrial economies to reduce CO₂ emissions and five other greenhouse gases between 2008 and 2012 by an average of about 5% relative to 1990 levels. The target for the U.S. is a 7% decrease from 1990 levels.
- 1998**—Vice President Al Gore's attempt to push Kyoto Protocol for U.S. is killed by Senate Resolution 98, 95-0.
- 1999**—European countries chastise U.S. for ignoring Kyoto Protocol.
- 2000**—Shale production amounts to 1% of U.S. total gas production while coal-fired electric generation accounts for 52% of U.S. total.
- 2001**—President George W. Bush repudiates Kyoto Protocol: "I oppose the Kyoto Protocol Treaty because it exempts 80% of the world, including major population centers such as China and India, from compliance, and would cause serious harm to U.S. economy."
- 2002**—Lowest level of coal exports out of the U.S. at just under 40 million tons.
- 2003**—Federal Reserve Chairman Alan Greenspan pushes for liquefied natural gas (LNG) imports to meet demand.
- 2004**—29 LNG import facilities proposed and planned in Lower 48.
- 2007**—Exploration for horizontal shale production begins in Haynesville shale.
 - Annual Barnett shale natural gas production exceeds 1.1 trillion cubic feet (Tcf).
- 2008**—EIA forecasts U.S. shale gas resource at 347 Tcf.
 - Navigant for Clean Skies Foundation (industry-sponsored effort) forecasts U.S. shale gas resource at 840 Tcf.
 - Russia, Iran and Qatar form natural gas cartel.
 - Average annual Nymex gas Henry hub price: \$8.95 per million Btu (MMBtu), highest ever.
- 2009**—Potential Gas Committee forecasts U.S. shale gas resource at 616 Tcf.
- 2010**—Shale production amounts to more than 20% of U.S. gas production.
 - Range Resources drills first horizontal Utica well.
- 2011**—March 11 tsunami hits Japan causing Fukushima nuclear accident.
 - Japan, Canada and Russia opt out of Kyoto Protocol second commitment period.
 - EIA ups U.S. shale gas resource to 827 Tcf.
 - Germany announces it will phase out all 17 nuclear reactors by 2022.
 - Europe's consumption of coal grows by 3.3% year in one year.
- 2012**—Coal-fired electric generation down to 32% of U.S. total.
 - U.S. coal exports exceed all time record, more than 125 million tons in one year.
 - U.S. coal exports to Europe rise 23% to 66.4 million short tons.
 - EIA reports that America's greenhouse gas emissions have fallen 7% to 1992 levels. U.S. becomes only nation to meet 1999 forecasted reduction.
 - Department of Energy refuses to issue LNG exports to non-free trade countries while it waits on completion of study. Twenty-five LNG export applications on hold.
 - Average annual Nymex natural gas Henry Hub price: \$2.80 per MMBtu.
- 2013**—Potential Gas Committee forecasts U.S. shale gas resource at 1,073 Tcf.
 - Today in the irony of all ironies, European power generation is in part provided by imported U.S. coal. Natural gas, the solution to CO₂ emissions in the U.S., is now opposed by environmentalists.
 - Ironic, isn't it? ■

John Harpole is an editorial advisory committee member to Midstream Business, founder and president of Mercator Energy LLC and a board member of the Western Energy Alliance, Colorado Oil and Gas Association, Leadership Program of the Rockies, University of Colorado's Global Energy Management Program and Energy Outreach Colorado.