



Wind and solar in Germany, photo by Kubelbeck

## Renewable Energy in Decline

By Steve Goreham

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The global energy outlook has changed radically in just six years. President Obama was elected in 2008 by voters who believed we were running out of oil and gas, that climate change needed to be halted, and that renewables were the energy source of the near future. But an unexpected transformation of energy markets and politics may instead make 2014 the year of peak renewables.

In December of 2007, former Vice President Al Gore shared the Nobel Peace Prize for work on man-made climate change, leading an international crusade to halt global warming. In June, 2008 after securing a majority of primary delegates, candidate Barack Obama [stated](#), "...this was the moment when the rise of the oceans began to slow and our planet began to heal..." Climate activists looked to the 2009 Copenhagen Climate Conference as the next major step to control greenhouse gas emissions.

The price of crude oil [hit](#) \$145 per barrel in June, 2008. The International Energy Agency and other organizations [declared](#) that we were at peak oil, forecasting a decline in global production. Many claimed that the world was running out of hydrocarbon energy.

Driven by the twin demons of global warming and peak oil, world governments clamored to support renewables. Twenty years of subsidies, tax-breaks, feed-in tariffs, and mandates resulted in an explosion of renewable energy installations. The Renewable Energy Index (RENIXX) of the world's 30 top renewable energy companies [soared](#) to over 1,800.

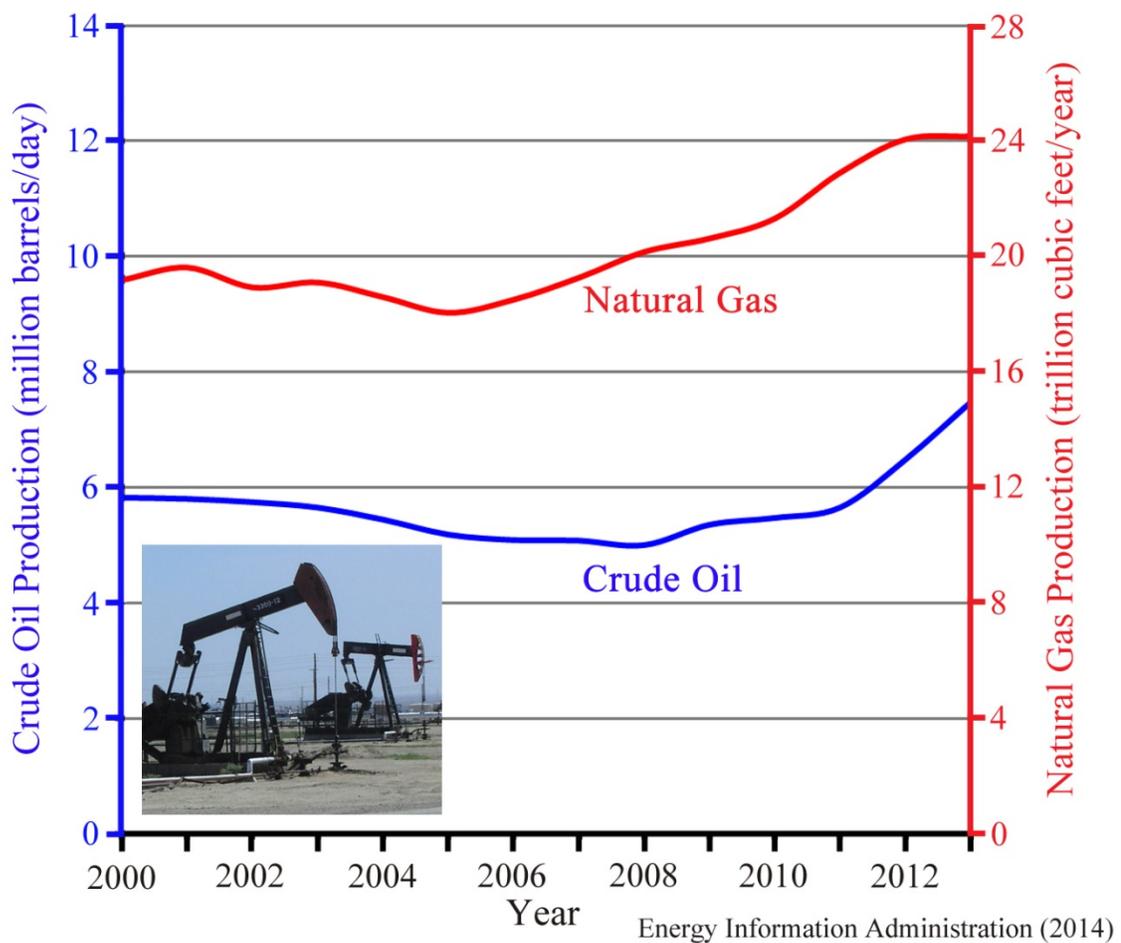
Tens of thousands of wind turbine towers were installed, [totaling](#) more than 200,000 windmills worldwide by the end of 2012. Germany [led](#) the world with more than one million

rooftop solar installations. Forty percent of the US corn crop was [converted](#) to ethanol vehicle fuel.

But at the same time, an unexpected energy revolution was underway. Using good old Yankee ingenuity, the US oil and gas industry discovered how to produce oil and natural gas from shale. With hydraulic fracturing and horizontal drilling, vast quantities of hydrocarbon resources became available from shale fields in Texas, North Dakota, and Pennsylvania.

From 2008 to 2013, US petroleum production [soared](#) 50 percent. US natural gas production rose 34 percent from a 2005 low. Russia, China, Ukraine, Turkey, and more than ten nations in Europe began issuing permits for hydraulic fracturing. The dragon of peak oil and gas was slain.

## US Crude Oil and Natural Gas Production 2000-2013



In 2009, the ideology of Climatism, the belief that humans were causing dangerous global warming, came under serious attack. In November, emails were [released](#) from top climate scientists at the University of East Anglia in the United Kingdom, an incident christened Climategate. The communications showed bias, manipulation of data, avoidance of freedom of information requests, and efforts to subvert the peer-review process, all to further the cause of man-made climate change.

One month later, the Copenhagen Climate Conference failed to agree on a successor climate treaty to the Kyoto Protocol. Failures at United Nations conferences at Cancun (2010), Durban (2011), Doha (2012), and Warsaw (2013) followed. Canada, Japan, Russia, and the United States [announced](#) that they would not participate in an extension of the Kyoto Protocol.

Major climate legislation faltered across the world. Cap and trade failed in Congress in 2009, with growing opposition from the Republican Party. The price of carbon permits in the European Emissions Trading System crashed in April 2013 when the European Union [voted](#) not to support the permit price. Australia elected Prime Minister Tony Abbott in the fall of 2013 on a [platform](#) of scrapping the nation's carbon tax.

Europeans discovered that subsidy support for renewables was unsustainable. Subsidy obligations [soared](#) in Germany to over \$140 billion and in [Spain](#) to over \$34 billion by 2013. Renewable subsidies produced the world's highest electricity rates in Denmark and Germany. Electricity and natural gas prices in Europe rose to double those of the United States.

Worried about bloated budgets, declining industrial competitiveness, and citizen backlash, European nations have been retreating from green energy for the last four years. Spain slashed solar subsidies in 2009 and photovoltaic sales [fell](#) 80 percent in a single year. Germany cut subsidies in 2011 and 2012 and the number of jobs in the German solar industry [dropped](#) by 50 percent. Renewable subsidy cuts in the Czech Republic, Greece, Italy, Netherlands, and the United Kingdom added to the cascade. The RENIXX Renewable Energy Index [fell](#) below 200 in 2012, down 90 percent from the 2008 peak.

Once a climate change leader, Germany turned to coal after the 2012 decision to close nuclear power plants. Coal now [provides](#) more than 50 percent of Germany's electricity and 23 new coal-fired power plants are planned. Global energy from coal has [grown](#) by 4.4 percent per year over the last ten years.

Spending on renewables is in decline. From a record \$318 billion in 2011, world renewable energy spending fell to \$280 billion in 2012 and then fell again to \$254 billion in 2013, [according](#) to Bloomberg. The biggest drop occurred in Europe, where investment plummeted 41 percent last year. The 2013 expiration of the US Production Tax Credit for wind energy will continue the downward momentum.

Today, wind and solar [provide](#) less than one percent of global energy. While these sources will continue to grow, it's likely they will deliver only a tiny amount of the world's energy for decades to come. Renewable energy output may have peaked, at least as a percentage of global energy production.

Steve [Goreham](#) is Executive Director of the [Climate Science Coalition of America](#) and author of the [book](#) *The Mad, Mad, Mad World of Climatism: Mankind and Climate Change Mania*.

## Global Investment in Renewable Energy (2004-2013)

