



climate prediction model

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DISCUSSION & REVIEW QUESTIONS:

- Towards the beginning of the video, Dr. Lomborg points out that, “This combination of grand pronouncements and vague specifics is a good strategy for Paris Agreement fans to take. Because the agreement will cost a fortune but do little to reduce global warming.” What is Dr. Lomborg criticizing here? Why do you think that the Paris Climate Agreement was hailed as an ‘incredible achievement,’ even though the agreement hasn’t done anything yet to mitigate global climate change and even though Gina McCarthy couldn’t even testify before congressional committee members as to how much good it might do?
- Dr. Lomborg goes on to explain that, “If we generously assume that the promised carbon cuts for 2030 are not only met (which itself would be a U.N. first), but sustained throughout the rest of the century, temperatures in 2100 would drop by 0.3 degrees-the equivalent of postponing warming by less than four years. Again, that’s using the UN’s own climate prediction model... In other words, we will spend at least one hundred trillion dollars in order to reduce the temperature by the end of the century by a grand total of three tenths of one degree.” Do you think that this return on investment is worth it? Why or why not? What if, likely, the promised carbon cuts are not met and the grand total of temperature reduction is even lower and the warming postponement is even shorter? Where would you draw the line of acceptable ROI? Explain.
- Later, Dr. Lomborg argues that, “The Paris Agreement is the wrong solution to a real problem. The right solution will most likely be found through green-energy research and development... Instead of political hot air and ever-larger government subsidies of today’s inefficient green technologies, those who want to combat climate change should focus on dramatically boosting green energy innovation.” Why do you think that Dr. Lomborg considers taxpayer-funded subsidies of certain green technologies to be a waste? What do you think Dr. Lomborg means by ‘green energy innovation?’
- Towards the end of the video, Dr. Lomborg supports his argument for developing green energy by pointing out that, “This momentous switch from coal to lower- CO2 gas as a source of energy has done far more to drive down carbon-dioxide emissions than any recent government climate policy.” Why do you think that this is the case? Do you agree with Dr. Lomborg? Why or why not? What do you think the relationship between climate policy and green energy research and development should be? Explain.
- Dr. Lomborg ends the video by stating, “Turns out that those politicians who gathered in Paris, France, could learn a lot from Paris, Texas.” What do you think Dr. Lomborg meant by that statement? What exactly could the politicians gathered in France learn from Texas? Do you think that politicians will ever listen to legitimate scientists in order to guide sensible environmental policy? Why or why not?

EXTEND THE LEARNING:

CASE STUDY: Natural Gas

INSTRUCTIONS: Read the article “Natural Gas Drives Emissions Lower,” then answer the questions that follow.

- What does the first chart in the article show? What are the benefits of natural gas? What does Howard Feldman credit for lowering methane emissions, in addition to industry leadership?
- What conclusions does the author of the article come to? Why are methane emissions also falling from natural gas?
- How does this article relate to Dr. Lomborg’s argument that global climate change money is better spent on researching and developing green energy solutions?



QUIZ

THE PARIS CLIMATE AGREEMENT WON'T CHANGE THE CLIMATE

1. The Paris Agreement will _____ and _____.
 - a. cost a fortune; considerably reduce global warming
 - b. be cost effective; considerably reduce global warming
 - c. cost a fortune; do little to reduce global warming
 - d. be cost effective; escalate global warming

2. The right solution to global warming will most likely be found through _____.
 - a. government funding
 - b. wind power
 - c. **green-energy research and development**
 - d. solar power

3. What process has allowed the United States to drastically reduce the cost of natural gas?
 - a. oil-drilling
 - b. fracking
 - c. mining
 - d. digging

4. Under the Paris Agreement, _____ dollars will be spent to reduce the temperature, by the end of the century, by three tenths of one degree.
 - a. 14 billion
 - b. 19 trillion
 - c. 100 trillion
 - d. 176 trillion

5. The Obama administration's Clean Power Plan will accomplish its goals.
 - a. True
 - b. False



QUIZ - ANSWER KEY

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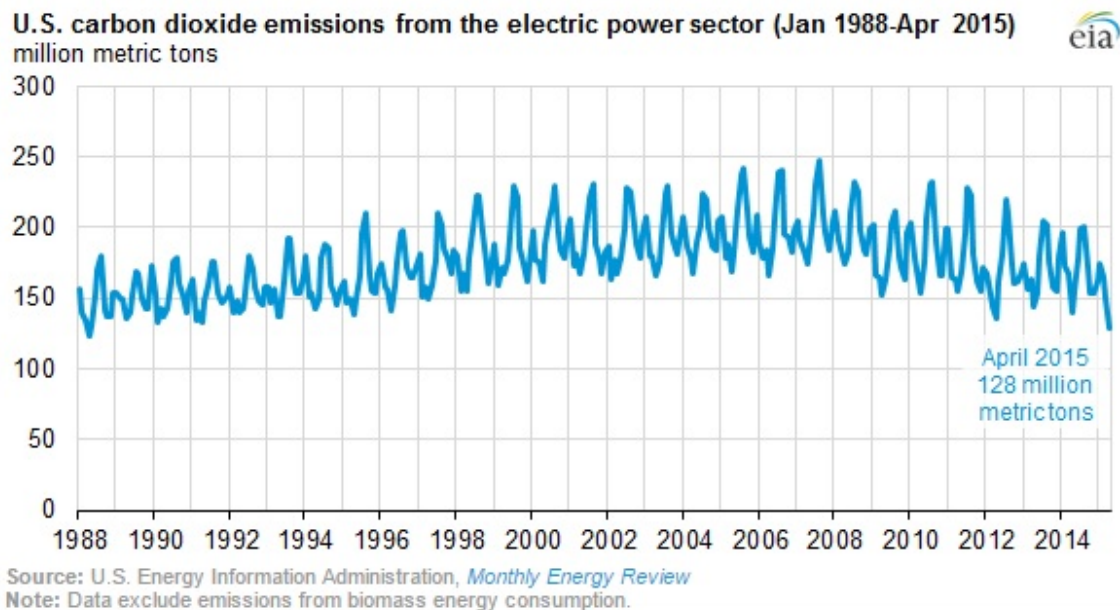
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Natural Gas Drives Emissions Lower

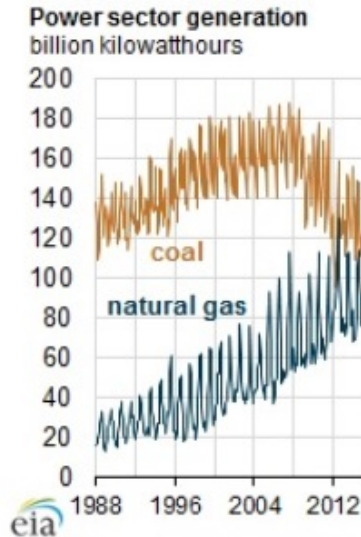


Mark Green
Posted August 5, 2015

New government stats on falling carbon dioxide (CO₂) emissions from electrical power generation point to a good-news story on energy and climate, one that should grab the attention of policymakers nationally and in the states. Take a look at this chart from the U.S. Energy Information Administration (EIA):



The blue-green line plots CO₂ emissions from the electric power sector from 1988 to this April, when those emissions hit their lowest point for any month in 27 years. This is largely because of increased use of natural gas in power generation – a market choice that’s based on the availability and affordability of natural gas, as well as the fact it is clean-burning. Among the line’s zigs and zags you can see the angle of the emissions line is down, starting around 2008 – which coincides with the onset of America’s shale energy revolution.



This second EIA chart shows the shares of power generation from coal and natural gas intersecting in the past couple of years, reflecting the growth of clean-burning natural gas in the power generation sector.

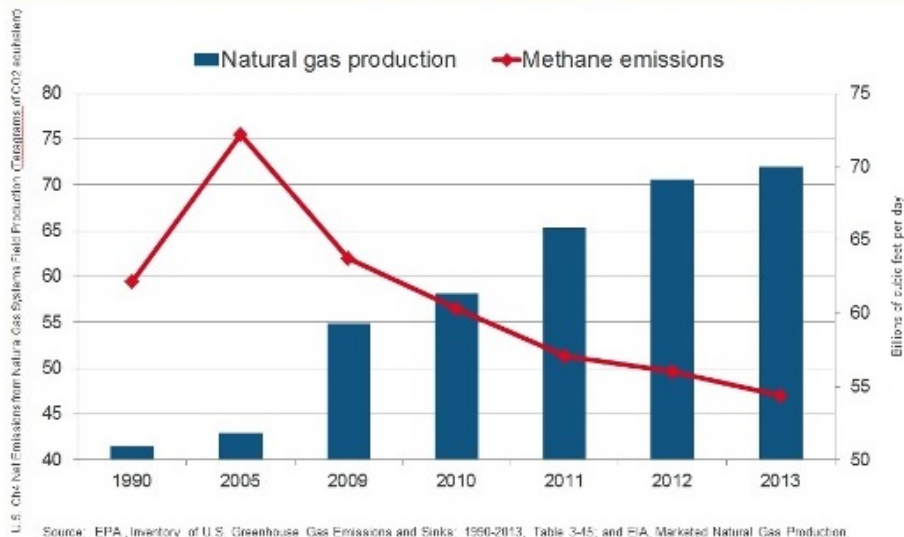
Again, the big-picture story here is that the power generation from natural gas (27 percent of the U.S. total in 2013 and projected by EIA to be 31 percent in 2040) is helping achieve CO₂ emissions. That's the marketplace in action. Dan Whitten, America's Natural Gas Alliance:

"It's telling that in April 2015 – the month the United States generated more electricity from natural gas than from any other fuel source – the United States also emitted less carbon dioxide into the atmosphere than at any time since 1988. That's no coincidence. ... We have a high degree of confidence that natural gas will play a significant and growing role in electricity markets. It is clean, affordable and abundant – all reasons why states will plan a robust role for this American fuel when they begin making choices about what power source to use."

Natural gas is integral to generating the electricity that enables modern living – from heating and cooling our homes to preparing our food to everyday conveniences. Together with oil, natural gas supplies about 63 percent of the energy we use today, and EIA estimates the two will supply about 62 percent in 2040. These are the energies of today and tomorrow.

It's worth noting that in another emissions area, methane, we see a similar trend line associated with emissions from natural gas development – falling – and for similar, market-based reasons. EPA's Greenhouse Gas Inventory Report issued this spring showed methane emissions from hydraulically fractured natural gas wells are down 79 percent since 2005 – a period in which natural gas production has soared:

Methane emissions are falling even as natural gas production is increasing



Howard Feldman, API's senior director of regulatory and scientific affairs:

"Even as oil and natural gas production has risen dramatically, methane emissions have fallen, thanks to industry leadership and investment in new technologies. Methane is the primary component of natural gas, and emissions will continue to fall as operators innovate and find new ways to capture and deliver more of it to meet consumer demands."

Developing and using natural gas is good for America: good for our economy and our way of life. Its qualities as a fuel are reflected in the market choices made by power generators and consumers, and these choices in turn are helping the country achieve its climate goals.