GlobalWarming.org
REASONED THINKING COMES FROM COOLER HEADS

How Can EPA's 'Clean Power Plan' Deliver $Billions in Climate Benefits If It Has No Detectable Impact on Global Temperatures, Sea-Level Rise, or Other Climate Indicators?

By Marlo Lewis

June 12, 2014

EPA's carbon "pollution" rule for existing power plants, dubbed the Clean Power Plan, requires states, on average, to reduce power-sector carbon dioxide (CO_2) emissions 30% below 2005 levels by 2030.

EPA's Regulatory Impact Analysis projects significant incremental annual compliance costs — $7.3 billion to $8.8 billion in 2030 (RIA ES-7) — but also much larger air quality and climate benefits. EPA's Clean Power Plan "By the Numbers" Fact Sheet estimates the public health and climate benefits at $55 billion to $93 billion. The RIA projects net benefits of $46 billion to $84 billion in 2030 (RIA ES-23).

Reductions in premature fatalities attributed to coincidental reductions in ozone and fine particulate ($MP_{2.5}$) pollution account for more than 90% of the estimated $23 billion to $59 billion in health benefits in 2030 (RIA ES-22). Those gigantic air quality "co-benefits" should be taken with several handfuls of salt.

Claims that $PM_{2.5}$ pollution currently kills thousands of Americans annually are based on cherry-picked studies and extrapolation of health effects below the lowest $PM_{2.5}$ concentrations associated with mortality in epidemiological studies. Such claims also conflict with toxicological studies, which indicate that current $PM_{2.5}$ concentrations in U.S. cities are too low to cause significant disease or death.

As for ozone pollution, the rule's purported health benefits are even less plausible, since asthma prevalence – especially childhood asthma rates — increased since 1980 while ozone concentrations declined by 25%.* The Clean Power Rule will reduce ozone precursor emissions chiefly by forcing states to shift base load generation from coal to natural gas. But the state with the worst ozone pollution is California, which obtains only 0.4% of its electricity from coal.

Those are my preliminary reactions to the rule's co-benefit claims. I turn now to the main topic of this post — whether the rule's alleged climate benefits justify the estimated costs.

EPA estimates that in 2030 the rule will deliver climate benefits of $9.5 billion to $94 billion, with a mid-range estimate of $31 billion (RIA ES-23). This seems to suggest that, just as the rule will impose $7.3 billion to $8.8 billion in compliance costs on the power sector in 2030, it will also spare Americans tens of billions of dollars in climate change damages in the same time frame.

Obama administration officials are only too happy to foster that impression. When announcing the rule, EPA Administrator Gina McCarthy said:

> In 2030, the Clean Power Plan will deliver climate and health benefits of up to $90 billion dollars. And for soot and smog reductions alone, that means for every dollar we invest in the plan, families will see $7 dollars in health benefits.

Implication: Climate benefits (CO_2-related damages avoided) in 2030 will exceed $30 billion.* That is nonsense for three reasons.

First, EPA calculates climate benefits by multiplying the number of tons CO_2 avoided by the administration's estimates of the social cost of carbon (SCC). The SCC is a guesstimate of the present value of the *cumulative damage to society out to the year 2300* from an incremental ton of CO_2 emitted in a particular year. As explained in this comment letter, SCC analysis is assumption-driven, computer-aided hocus-pocus. By fiddling with non-validated climate parameters (such as climate sensitivity, how warming will affect ice sheet dynamics, and how warming will affect weather patterns), made-up damage functions (how adaptive capabilities — that is, technology — will develop as the world warms), and below-market discount rates, SCC analysts can get almost any result they desire.

Second, EPA uses global rather than domestic SCC values to calculate climate benefits. Global SCC values incorporate climate change damage estimates for developing countries, many of which still depend on subsistence agriculture, and all of which lack first-world adaptive capabilities. According to the Obama administration's 2010 SCC report "a range of values from 7% to 23% should be used to adjust the global SCC to calculate domestic effects" (p. 12). This means that if the climate benefit of the carbon rule is calculated to be $31 billion in 2030, the benefit to the U.S. economy is only $2.2 billion to $7.1 billion. That's a far cry from the $31 billion touted in the RIA and less than the estimated 2030 compliance costs ($7.3 billion to $8.8 billion).

Third, and most importantly, the rule's climate benefits are not actually an estimate of the monetary damages avoided in 2030. To repeat, the climate benefits are simply the numbers that EPA gets when it multiplies tons of CO_2 avoided by its estimates of the present value of all cumulative damages caused by each incremental ton of CO_2 emissions over an immense time span — from 2010 to 2300.

In short, none of the rule's alleged climate benefits will be discernible in 2030 and likely not even in 2100.

Ask yourself, if EPA really believes the rule will deliver $33 billion in climate benefits in 2030, then why do the Clean Power Plan rule, the RIA, and the By the Numbers Fact Sheet provide no estimates of how the rule will affect warming rates, sea-level rise, drought frequency, tropical storm behavior, polar bear populations, heat mortality risk, or any other climate-related indicator people care about?

The answer should be obvious. It's because the rule will have no perceptible impact on those indicators in 2030 — and very likely not even in 2100. So how can the rule's CO_2 reductions confer tens of billions of dollars in net benefits on the American people in 2030? It can't.

On this critical point, the Clean Power Plan is even more deficient in candor than previous EPA greenhouse gas (GHG) regulations. Previous GHG rules also did not acknowledge their climatological irrelevance but at least provided enough information for attentive readers to see through the hype.

Consider the EPA and the National Highway Traffic Administration's first (2010) Tailpipe Rule, which established GHG/Fuel Economy standards for model year (MY) 2012-2016 light duty vehicles. According to the agencies, "this rulemaking is expected to reduce global CO_2 emissions by about 0.4 to 0.9%" by 2100 (74 FR 49741). Which means: "These reductions are projected to reduce global mean temperatures by approximately 0.007 to 0.016 degrees Centigrade by 2100 and global mean sea level rise is projected to be reduced by 0.06 to 0.15 centimeters by 2100" (74 FR 49581).

That bears repeating. Averted warming could be as little as seven-thousandths of a degree Celsius. Averted sea-level rise could be as tiny as two-hundredths of an inch. Such changes are too minute to be distinguished from the "noise" of inter-annual climate variability, and would make no practical difference to farmers, urban planners, or polar bears. The climate 'benefits' in 2030 would be even more miniscule.

The agencies said much the same in their second (2012) GHG/Fuel Economy Tailpipe Rule for MY 2017-2025 light duty vehicles: "The results of the analysis demonstrate that relative to the reference case, projected atmospheric CO_2 concentrations are estimated by 2100 to be reduced by 3.29 to 3.68 part per million by volume (ppmv), global mean temperature is estimated to be reduced by 0.0076 to 0.0184°C, and sea level rise is projected to be reduced by approximately 0.074–0.166 cm, based on a range of climate sensitivities" (76 FR 75097). The climate change benefits, if any, would be hypothetical and undetectable.

Ditto for the agencies' 2011 GHG/Fuel Economy standards for My 2014-2018 medium- and heavy-duty trucks: "By 2100, the proposed GHG standards are estimated to reduce atmospheric CO_2 concentration by 0.732 parts per million, which in turn is estimated to avert 0.002-0.004°C of global warming and 0.012-0.048 centimeters of sea-level rise" (75 FR 74289). The climate change benefits, if any, would exist only in the virtual world of computer modeling.

So why doesn't EPA provide corresponding information for the Clean Power Plan? It's not as if EPA has forgotten how. Today on WattsUpWithThat, Cato Institute scientists Patrick Michaels and Chip Knappenberger, using MAGICC, a climate change calculator developed in part with EPA support, estimate the global temperature change from the Clean Power Plan's CO_2 reductions. What difference will it make? "Less than two one-hundredths of a degree Celsius by the year 2100." The exact number is 0.018°C.

Evidently, EPA wants to avoid the embarrassment of having to admit, once again, that the benefits of its climate rules are, as Michael and Knappenberger put it, "vanishingly small." That's in 2100. Claims that the Clean Power Plan will confer multi-billion dollar benefits on Americans in 2030 are over-the-top ridiculous.

* The EPA's estimated compliance burdens in 2030 average out to about $8 billion. Air quality benefits are said to be up to seven times larger, or $56 billion. Subtracting $56 billion in air quality benefits from $90 billion in total benefits leaves $34 billion in climate benefits.