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# Essay

by the National Mining Association ♦

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## The Cold Facts on Global Warming

We've been bombarded with information that a disaster awaits us. A television special was even done on the subject, full of parched, cracking farmlands, crying babies, and sweaty adults.

Everywhere we turn, we hear: "The earth is melting and it's all because of coal."

As a scientist, I like to examine the facts. On this issue, the scientific facts say we are overreacting.

### CO<sub>2</sub> Truths

Let's look at the facts. Burning coal and other fossil fuels does release carbon dioxide (CO<sub>2</sub>) into the atmosphere. CO<sub>2</sub> is one of the "greenhouse gases" of which increases during the last 100 years are blamed for the 0.5° C rise in average global temperature. Greenhouse gases, naturally present in the atmosphere, act like an insulating blanket over the earth and help warm the planet. Without them, the average temperature of the earth would be a chilly minus 18° C.

Adding CO<sub>2</sub> to the atmosphere by burning coal should contribute to the natural greenhouse effect and make the earth slightly warmer. Predicting how much warmer the earth might become is the heart of the climate change debate.

The predictions are based on elaborate mathematical models carried out on large computers and vary considerably based on who is doing the calculations. For example, the U.N. Intergovernmental Panel on Climate Change (IPCC) says if greenhouse gases continue to accumulate in the atmosphere, in the next 50 years the temperature of the earth will rise between 15° and 45° C. The IPCC "best estimate" is a rise of 2.5° C. This forecast has led to serious discussions of the need for limiting CO<sub>2</sub> emissions by taxes or mandates.

Such a major policy decision demands that we ask some basic questions: Are the computer forecasts accurate? Are they based on scientific facts? What do we risk by delaying CO<sub>2</sub> emission

restrictions while we wait for better information from climate experts?

In fact, the current computer forecasts seem to be dismally inaccurate. They fail in every respect when compared to what the earth's temperature actually did in response to the large buildup of greenhouse gases in recent years. Modern temperature records began in 1880 and show a warming of about 0.5° C to the present. As noted earlier, during that same period greenhouse gases in the atmosphere increased by the equivalent of a 50 percent increase in CO<sub>2</sub>. The forecasts predict a warming of 0.5° to 2° C for that increase in carbon dioxide. The IPCC reports says "the size of this [observed] warming is broadly consistent with predictions of climate models . . ."

But the timing of the temperature rise is completely inconsistent with the predictions. Nearly all the 0.5° C temperature rise occurred before 1940, but most of the CO<sub>2</sub> entered the atmosphere after 1940. Increased greenhouse gases cannot be the cause of a temperature rise that occurred before the gases were added to the atmosphere.

There is more. From 1940 to 1970, CO<sub>2</sub> built up rapidly in the atmosphere. According to the greenhouse calculation, the temperature of the earth should have risen rapidly; instead, the temperature actually fell.

### **Numerous Contradictions**

Thus, greenhouse gases cannot explain the rise in global temperature prior to 1940 and cannot explain the temperature drop between 1940 and 1970. So the predictions of greenhouse theorists are contradicted by the temperature record to such a degree as to indicate the major buildup of greenhouse gases did not have anything like the predicted impact on global climate during the last century.

U.S. temperature records are another clear example of the inaccuracy of the forecasts. The forecasts say the United States should have warmed by at least 2° C during the last 50 years—faster than the rise in mean global temperatures because land warms quicker than ocean. However, U.S. temperature records show no warming trend during that time.

The temperature record for the last decade or two contradicts the greenhouse forecasts. According to these forecasts, the buildup of greenhouse gases is now so enormous that a greenhouse-induced warming should have risen clearly out of the background of natural fluctuations in climate. This prediction can be checked by very precise readings of the earth's average temperature, available from NASA satellites for the past 15 years. According to the computer forecasts, the buildup of greenhouse gases from fossil fuels during that period should have caused global temperatures to rise by about one-third of a degree and U.S. temperatures to warm by about two-thirds of a degree.

But, instead, the satellite data show the average temperature of the earth has changed by less than one-tenth of a degree during the last 15 years. The satellites indicate the computer forecasts are exaggerating the size of the warming by at least a factor of 5.

Some researchers argue satellites do not yield accurate temperatures at ground level. NASA's Dr. James Hansen told *The Washington Post* that if the satellite data don't agree with his computations, "there's something wrong with the data." Unfortunately for this view, the

temperatures measured at ground weather stations spread across the North American continent perfectly agree with the satellite data.

Temperatures in the Arctic are an even more sensitive test of the greenhouse forecasts, because a particularly large warming is predicted for those latitudes. The significant warming is predicted because water absorbs much more of the sun's heat than ice, which reflects most of it back to space. When the ice covering the Arctic Ocean is melted by the greenhouse effect, more water is exposed, the amount of heat absorbed from the sun goes up, and the region warms even more.

The computers say this amplifying effect should have caused nearly a degree of warming in the Arctic just in the last 15 years. But the satellites show no net warming in the Arctic during that period. Again the real world—which is the temperature readings—shows the computer forecasts are exaggerating global warming by a large factor.

### **Don't Blame Pollution**

Greenhouse theory advocates explain these discrepancies in the United States as well as the Arctic by saying pollution has blocked sunlight and masked the warming. But pollution has decreased substantially in the United States since the 1970s. In the Arctic, pollution also has been decreasing, and is, in any case, too small to mask the enormous predicted warming. Pollution cannot explain these discrepancies.

I mentioned earlier the evidence shows computer forecasts exaggerated the current greenhouse warming by at least a factor of 5. Since future forecasts depend on the same equations and computer programs as current forecasts, the same level of exaggeration applies. If those forecasts are revised downward to agree with the current observations, they say the manmade greenhouse warming in the next century will be less than half a degree at most. Such a warming spread across half a century is inconsequential.

### **What If . . .**

Suppose I am wrong, despite my reading of all the currently available scientific evidence. We could still delay limits on CO<sub>2</sub> emissions for, say, five years, while more evidence is sought on the magnitude of the greenhouse warming. Even if the greenhouse effect is as large as the computer equations say (and we know that actually they are exaggerating the effect by a large factor), a delay of five years turns out to mean a penalty of an extra tenth of a degree temperature rise in the next 50 years, beyond what the rise would have been if we had not delayed action.

An extra tenth of a degree spread across a half century would have negligible practical consequences for agriculture and all other human activities.

A delay of five years before imposing carbon taxes or CO<sub>2</sub> limits makes good sense. The computer forecasts of the earth's climate fail to meet the rigorous requirements of the scientific method: a test of these computer forecasts against observations. The test has been made. Every prediction that has been tested has been proven wrong. The entire hypothesis of a disastrous manmade global warming is suspect.