



**From:** Joseph Bast  
**Sent:** Wed 10/11/2017 6:07:19 PM  
**Subject:** PM2.5 and CPP repeal

Friends,

At the most recent Red Team briefing hosted by The Heartland Institute, we talked about how important the air quality debate is to the global warming debate. The Obama administration used exaggerated estimates of the negative health effects of particulate matter (PM2.5) to make its benefit-cost analysis of the Clean Power Plan come out positive. Indeed, most of the war on fossil fuels was conducted in the name of reducing “criterion pollutants,” substances already regulated under the Clean Air Act. Unless we oppose junk science in that field, our victories against AGW alarmism won’t change public policy (much).

Only a few brave souls have been opposing EPA’s junk science in the air quality arena, among them Steve Milloy, James Enstrom, John Dunn, and Stan Young. (No disrespect meant to others on this list who contributed as well... let me know who you are so I can put you to work.) Repeal of the Clean Power Plan is a tribute to their courage, hard work, and perseverance.

In his message below, one of these heroes, Steve Milloy, explains how Scott Pruitt justified repeal by specifically challenging the alleged health effects of exposure to PM2.5 *below* the already-too-strict air quality standards. As Steve says, it’s a clever trick. Steve’s explanation is below.

Now go outside and roll around in the grass for a while! It’s a good day to celebrate!

Joe

**From:** Steve Milloy [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Wednesday, October 11, 2017 8:54 AM  
**To:** Joseph Bast

**Cc:**

**Subject:** Re: PM2.5 and CPP repeal

Same chart annotated below.

Look at circled numbers as an example.

Ignore the table headers, they are worded correctly but are unnecessarily confusing (no doubt by Obama holdovers).

Cost of rule by 2030 with 3% discount rate is \$27.2 billion.

Under assumption that PM2.5 kills, benefits of rule are as much as \$55.5 billion. So then net benefits of rule (just from PM2.5) are as much as \$28.3 billion (\$55.5 billion minus \$27.2 billion).

Under assumption that PM2.5 kills no one below existing PM2.5 NAAQS standard, benefits are only \$26.5 billion —i.e., \$29 billion less than the PM2.5 kills scenario. So then net benefits of rule are turned into a net cost of \$0.7 billion (\$26.5 billion - \$27.2 billion).

The reason there are still any remaining benefits from PM2.5 reductions is because the Pruitt EPA still assumes that PM2.5 kills at levels above the PM2.5 NAAQS. This assumption is wrong, but the Pruitt EPA is only changing its view of PM2.5 to the extent it needs to. It's actually somewhat of a clever trick.

The PM2.5 NAAQS set by Obama in 2012 (at 12 micrograms/cubic meter, down from the previous standard of 15) is by law supposed to represent “safe” air. So if the PM2.5 NAAQS of 12 represents “safe” air, then there are no deaths below 12 — and so no benefits that can be monetized.

Steve

**Table 1 - Monetized Forgone Benefits, Avoided Compliance Costs, and Net Benefits based on Rate-Based Approach from 2015 CPP RIA (billions of 2011\$)**

Year	Discount Rate	Benefit of Repeal: Avoided Costs	Cost of Repeal: Forgone Benefits		Net Benefits of Repeal	
			Low	High	Low	High
<b>Forgone Health Co-Benefits (Full Range of Ambient PM<sub>2.5</sub> Concentrations)</b>						
2020	3%	\$3.7	\$2.3	\$3.4	\$0.3	\$1.4
	7%	\$4.2	\$1.9	\$3.0	\$1.2	\$2.3
2025	3%	\$10.2	\$18.0	\$28.4	(\$18.1)	(\$7.8)
	7%	\$14.1	\$16.2	\$25.6	(\$11.5)	(\$2.0)
2030	3%	\$27.2	\$35.8	\$55.5	(\$28.3)	(\$8.6)
	7%	\$33.3	\$32.2	\$50.2	(\$16.9)	\$1.1
<b>Forgone Health Co-Benefits (PM<sub>2.5</sub> Benefits Fall to Zero Below LML)</b>						
2020	3%	\$3.7	\$2.2	\$2.8	\$0.9	\$1.5
	7%	\$4.2	\$1.9	\$2.4	\$1.8	\$2.3
2025	3%	\$10.2	\$17.5	\$20.7	(\$10.5)	(\$7.3)
	7%	\$14.1	\$15.7	\$18.7	(\$4.6)	(\$1.6)
2030	3%	\$27.2	\$34.8	\$40.7	(\$13.5)	(\$7.6)
	7%	\$33.3	\$31.3	\$36.9	(\$3.6)	\$2.0
<b>Forgone Health Co-Benefits (PM<sub>2.5</sub> Benefits Fall to Zero Below NAAQS)</b>						
2020	3%	\$3.7	\$1.7	\$2.1	\$1.5	\$2.0
	7%	\$4.2	\$1.4	\$1.8	\$2.4	\$2.8
2025	3%	\$10.2	\$11.4	\$13.3	(\$3.1)	(\$1.1)
	7%	\$14.1	\$10.2	\$12.1	\$2.1	\$4.0
2030	3%	\$27.2	\$23.0	\$26.5	\$0.7	\$4.2
	7%	\$33.3	\$20.7	\$24.1	\$9.2	\$12.7

Note: Forgone benefits include forgone climate, energy efficiency, and air quality benefits. The range of benefits presented here reflects several alternative assumptions regarding the risk of PM-related premature death, ranging from the assumption that populations are at risk of PM-related premature death at all levels of PM<sub>2.5</sub> to the assumption that the risk of PM<sub>2.5</sub>-related death falls to zero below the annual NAAQS (12µg/m<sup>3</sup>).



**From:** Joseph Bast  
**Sent:** Tue 10/10/2017 11:24:38 PM  
**Subject:** Good news on ground level ozone  
[ParrishPetropavlovskikhOltmans17-Oct9-ReversalofLongTermBaselineO3Trend-NAmericanWest.pdf](#)

Willie Soon notes that this good news on the air quality front will probably get no attention from the yellow press, but some of us should let the world know.

John Dunn, who is getting this email, would tell you not to accidentally endorse the false notion that past levels of ozone posed a public health hazard. They were already too low to have a measurable effect. Do not dignify the other side's fake science by saying the public health threat is falling. There is no reliable evidence that ozone at ambient concentrations caused measurable public health effects.

Joe

## **Reversal of long-term trend in baseline ozone concentrations at the North American west coast**

### Abstract

Changes in baseline (here understood as representative of continental to hemispheric scales) tropospheric ozone concentrations that have occurred over western North American and eastern North Pacific are analyzed based on data from three measurement records: 1) sites in the U.S. Pacific coast marine boundary layer, 2) an inland, higher altitude site at Lassen Volcanic National Park, CA, and 3) springtime airborne measurements in the free troposphere between 3 and 8 km altitude. **Consistent with previously published results, we find increasing ozone prior to the year 2000, but that rate of increase has slowed and now reversed in these data sets in all seasons. The past ozone increase has been identified as a significant difficulty to overcome in achieving U.S. air quality goals; this difficulty has now eased.** Global models only poorly reproduce the observed baseline ozone and trends; policy guidance from such models must be considered very cautiously.

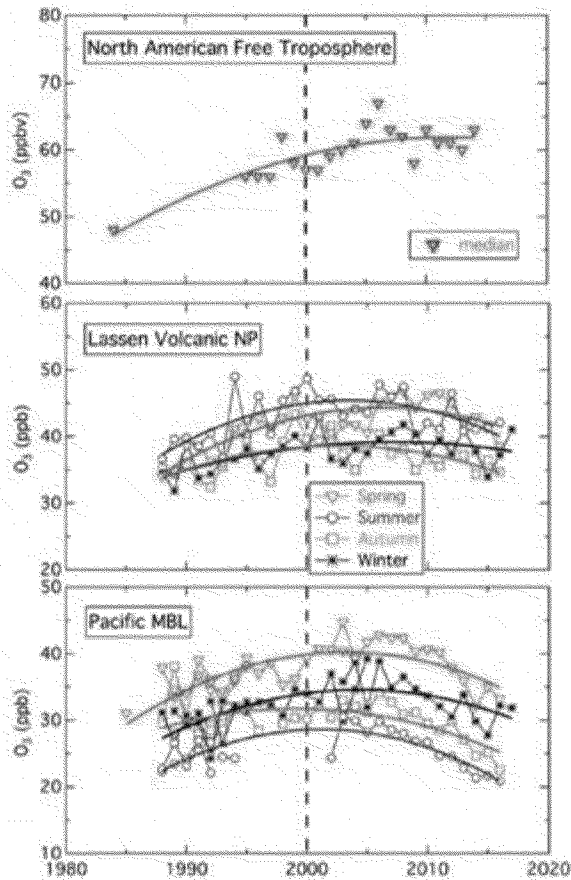


Figure 1. Seasonal O<sub>3</sub> averages measured in the vicinity of the northern U.S. Pacific coast. The solid lines give the least-squares regression of Equation 1 for each seasonal data set described in Section 2. Colors and symbols identify the seasons as indicated in the annotation. Note that the O<sub>3</sub> mixing ratios differ on the three abscissas, but each spans a total range of 40 ppb.



# Reversal of long-term trend in baseline ozone concentrations at the North American west coast

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## Key Points:

- Over the past decades, a long-term increase in baseline ozone has been observed at the North American west coast; that increase has ended.
- The end of increasing ozone concentrations transported into the U.S. eases one difficulty to meeting the U.S. ozone air quality standard.
- Global models poorly reproduce observed baseline ozone; they do not accurately calculate North American background ozone and its trends.

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## Abstract

Changes in baseline (here understood as representative of continental to hemispheric scales) tropospheric ozone concentrations that have occurred over western North American and eastern North Pacific are analyzed based on data from three measurement records: 1) sites in the U.S. Pacific coast marine boundary layer, 2) an inland, higher altitude site at Lassen Volcanic National Park, CA, and 3) springtime airborne measurements in the free troposphere between 3 and 8 km altitude. Consistent with previously published results, we find increasing ozone prior to the year 2000, but that rate of increase has slowed and now reversed in these data sets in all seasons. The past ozone increase has been identified as a significant difficulty to overcome in achieving U.S. air quality goals; this difficulty has now eased. Global models only poorly reproduce the observed baseline ozone and trends; policy guidance from such models must be considered very cautiously.

## 1 Introduction

Ozone is a secondary pollutant that, in the U.S., is subject to control under the 1970 Clean Air Act. In response to increasing evidence for human health effects from ozone at progressively lower concentrations [OAR, EPA, 2014] the National Ambient Air Quality Standard (NAAQS) was lowered to 70 ppb in 2015. Contributions to ambient ozone can be divided into two categories: the concentrations that would exist in the absence of any North American emissions of anthropogenic ozone precursors, which are primarily hydrocarbons and oxides of nitrogen, and the ozone enhancements produced by photochemical processing of the North America anthropogenic emissions of ozone precursors. The former has been called "North American background ozone" [e.g., Fiore *et al.*, 2014]. Transport of ozone into the U.S. provides the majority of North American background ozone, especially in the western U.S. This transported contribution is modified by ozone destruction mechanisms (e.g., deposition to surfaces, especially vegetation) and photochemical production from natural U.S. precursor emissions (e.g., NO<sub>x</sub> from lightning and biogenic hydrocarbons from forests). Here we refer to this transported contribution to North American background ozone as "baseline" ozone, which flows into the U.S from all natural and anthropogenic upwind sources. Baseline ozone mixing ratios can be directly measured at surface sites or airborne platforms along the West Coast in air masses not influenced by recent North American continental influences; it is such measurements that we evaluate in this paper. Cooper *et al.* [2015] thoroughly discuss baseline and background ozone.

An increase in baseline ozone over the past three decades has been identified from measurements along the North American Pacific coast [Jaffe *et al.*, 2003] and further characterized and discussed in several papers [Parrish *et al.*, 2004; 2009; 2012; 2014; Cooper *et al.*, 2010; 2012]. From an air quality perspective, an increase in the transported component of ambient ozone concentrations is of concern because that increase may offset air quality improvements that would otherwise be expected to result from reductions in ozone precursor emissions [e.g., Jacob *et al.*, 1999]. Importantly, preliminary indications of a slowing of the increase, and perhaps reversal of the observed baseline ozone trend were identified and discussed [Parrish *et al.*, 2012; 2014]. An analysis of the ozonesonde record at Trinidad Head on the California coast [Oltmans *et al.*, 2008] also shows that ozone in the 850-700 hPa (1.5-3.0 km altitude) layer peaked in the early 2000s.

Here we reanalyze the measurement records that originally established the past increase in baseline ozone at the U.S. west coast, and include the most recent measurements (early 2017 for two data sets). We show that the past increase has indeed ended, generally in

the early to mid-2000s, and that these baseline ozone mixing ratios have since been decreasing. This marked change in baseline ozone trends is expected to ease the achievement of U.S. air quality goals.

## 2 Data Sets and Methods

Only very limited data are available for quantifying long-term changes in baseline ozone mixing ratios at the North American west coast. In this work we extend to recent years the three such data sets that have been discussed in several published studies. Sections 2.1-2.3 describe these three data sets, with references given to the previously published analyses; the Supporting Information gives a summary of the measurement dates and sites, and references to the archives where these data are available. Section 2.4 describes the methods employed to quantify the long-term changes in these data sets.

### 2.1 Pacific marine boundary layer data

A time series of seasonal average ozone mixing ratios in the Pacific marine boundary layer (MBL) at the U.S. west coast was derived from measurements at five coastal sites. The majority of these data were collected at the Trinidad Head California monitoring site operated by the Global Monitoring Division of NOAA's Earth System Research Laboratory beginning in 2002. By including measurements from four other coastal sites [Parrish *et al.*, 2009], these results covered 1988-2006 in all seasons, with springtime 1985 data available from one site [Parrish *et al.*, 1992]. There were no statistically significant differences between seasonal average ozone mixing ratios obtained from separate sites [Parrish *et al.*, 2009], so all seasonal averages were considered as a single time series. This work showed that filtering the measurement data to include only periods of high onshore winds effectively eliminated continental influences that could modify marine ozone mixing ratios. At each site, all hourly data that fell in a selected wind window were averaged to three-month seasonal periods (MAM, JJA, SON and DJF). For this work, we have extended the Pacific MBL data set by calculating seasonal averages of the Trinidad Head ozone data through winter 2017 (i.e. December 2016 and January-February 2017), using the wind filter employed by Parrish *et al.* [2009]. An earlier extension of this data record through 2010 [Parrish *et al.*, 2012; 2014] is identical to that presented here.

### 2.2 Lassen Volcanic NP data

Lassen Volcanic National Park in California is the only elevated site in western North America that receives relatively undisturbed air inflow from the Pacific Ocean, and where ozone measurements have been made over decadal time scales. Measurements were begun there in 1988. Unfortunately, this site lies approximately 240 km inland from the Pacific coast. Jaffe *et al.* [2003] first analyzed the long-term, seasonal average trends in this data set over the 1988 to 2002 period. They showed that filtering the data to isolate marine air, either based on back trajectory air parcel calculations or wind sector filtering, yielded trends not statistically different from the trends including all hourly data. Parrish *et al.*, [2012] extended this time series through 2010 based on seasonal averages of all hourly data without any filtering, and here we further extend this record in the same manner through winter 2017.

### 2.3 North American free troposphere data

Cooper *et al.* [2010] compiled springtime (April and May) ozone measurements in the free troposphere (3-8 km altitude) from all available platforms (research and commercial aircraft, ozonesondes, and lidar) over the eastern North Pacific and across western North America. This effort yielded a continuous data record for 1995–2008, with a single earlier year (1984). Cooper *et al.* [2010] compared the trends from the total data set with those

derived from a subset of the data that used a particle dispersion model to filter out data with a recent, strong influence from the North American boundary layer; no statistically significant differences were found between these trends. *Cooper et al.* [2012] extended this data set with no filtering for air mass origin through 2011, and *Lin et al.* [2015] further extended this record through 2014, again with no filtering of the data; this latter data set with temporal coverage through 2014 is considered here. *Cooper et al.* [2010; 2012] analyzed five percentiles of the data; here we consider only the medians to be approximately consistent with the seasonal averages of the Pacific marine boundary layer and Lassen Volcanic NP data sets.

*Lin et al.* [2015] compared North American free troposphere data set with ozone mixing ratios calculated with the GFDL-AM3 global chemistry-climate model nudged to reanalysis winds. They find that spatial sampling biases in the measurements may have influenced the calculated trends; these sampling biases must be recognized in considering the present results.

#### 2.4 Analysis approach

The conceptual model that is the basis of our analysis assumes that temporal variations of the seasonal averages are driven by two factors. First, there is an underlying, relatively smoothly varying, continuous long-term trend reflecting changes in the sources and sinks of tropospheric ozone (e.g., increasing or decreasing ozone precursor emissions, land-use changes that affect surface deposition, changing climate etc.) and perhaps long-term changes in transport patterns; we will refer to these long-term changes as the trend. Second are more chaotic, shorter duration changes due to interannual to decadal variability in circulation regimes (i.e., internal climate “noise”; see *Lin et al.* [2015] for a discussion). Many studies have used an ordinary linear least-square regression to at least approximately separate these two factors [e.g., *Cooper et al.*, 2010; 2012; *Lin et al.*, 2015; 2017 and references cited therein]. The slope of the linear regression in units of ppb yr<sup>-1</sup> is assumed to represent the trend in the data, while the scatter about that regression line is assumed to represent the internal climate noise. An important shortcoming of this approach is that in many cases a linear change only poorly represents the trend. In such a situation the linear regression slope gives an estimate for the average temporal change in the measured ozone mixing ratios over the time span of the measurement record, but the derived line does not accurately describe the trend. Likewise, in such cases the deviations of the measurements from the derived line represent a fraction of the long-term changes, in addition to the climate noise.

We utilize a more general approach to quantify the underlying trends in the temporal series of seasonal average ozone measurements investigated here - a nonlinear least-square regression fit of a polynomial to the series, in this application the quadratic polynomial in Equation 1:

$$[\text{O}_3] = a + bt + ct^2, \quad (1)$$

where  $a$ ,  $b$ , and  $c$  are constant coefficients that quantify the underlying long-term trends in the time series. The nonlinear least-square regression fit returns 95% confidence limits for each of the three coefficients.

Equation 1 is a specific realization of a general approach; a polynomial fit to the data is equivalent to deriving a power series expansion of the underlying, relatively smoothly varying, continuous long-term trend. Any function can be fit to any desired precision if enough terms are included in the power series expansion (i.e., if more terms are included in the polynomial of Equation 1). However, the temporal series we are considering have

significant internal climate noise about the trend, which limits the number of statistically significant terms of the power series that can be determined from a finite temporal series. If the absolute value of the final coefficient is larger than its 95% confidence limit, then that term is considered to be statistically significant. In the analyses in this paper, three, and no more than three coefficients that are unambiguously statistically significant can be derived, and these we will discuss.

To most precisely determine the coefficients from the nonlinear regression, the time reference (i.e., the time origin) must be near the center of the data series. Here that reference is selected as the year 2000 (i.e.,  $t$  in Equation 1 equals year-2000). The first coefficient ( $a$ , with units ppb O<sub>3</sub>) is the intercept of the fitted curve at this reference time; it gives us information regarding the absolute magnitude of the ozone mixing ratio. The second coefficient ( $b$ , with units ppb O<sub>3</sub> yr<sup>-1</sup>) is the slope of the fitted curve at the reference time; it gives the best estimate the time rate of change of ozone in the year 2000. Finally, the third coefficient ( $c$ , with units ppb O<sub>3</sub> yr<sup>-2</sup>) is equal to one-half of the (constant) time rate of change of the slope of the fitted curve. It is important to note that this third term is quite important for quantifying ozone trends; the temporal series of seasonal ozone mixing ratios that we examine here generally have trends with positive slopes in the early parts of the record and negative slopes in the later parts, so that the overall change is small, but nevertheless the trends are statistically significant.

*Parrish et al.* [2009; 2012; 2014] and *Logan et al.* [2012] utilized identical or closely related approaches to that described above. Most of the trends investigated had three statistically significant coefficients as illustrated in Equation 1, but *Parrish et al.* [2014] showed examples where four or even five polynomial terms were statistically significant.

### 3 Results

The temporal series of the seasonal average ozone mixing ratios discussed in Section 2 are illustrated in Figure 1, along with the corresponding least-square regression fits to Equation 1. Table 1 gives the coefficients (with 95% confidence limits) derived from these regression fits. Consistent with previous discussions of the long-term increase in baseline ozone at the North American west coast [*Jaffe et al.*, 2003; *Parrish et al.*, 2004; 2009; 2012; 2014; *Cooper et al.*, 2010; 2012], the positive  $b$  coefficients indicate that the derived long-term trends were increasing in year 2000 (except for autumn in the Pacific MBL). The  $c$  coefficients are all negative and statistically significant, indicating that, on average, the slopes of the long-term trends have been decreasing in all seasons over the period of the data records. *Parrish et al.* [2012] also investigated regression fits of Equation 1 to these data sets, and the coefficients they derived are generally statistically consistent with those reported here in Table 1, but the confidence limits were significantly larger due to the shorter data records (only through 2010) available at that time. Consistent with the results in Table 1, *Parrish et al.* [2012] nearly always found negative  $c$  coefficients in all seasons in all data sets, but most were not statistically significantly different from zero (see figures in Supplementary Material of *Parrish et al.* [2012]). It is now clear that trends in seasonal average baseline ozone mixing ratios at the U.S. west coast are not well approximated by constant linear changes. The time rate of change of these series of ozone mixing ratios (i.e., the slopes) have been decreasing at an approximately constant rate, so that a majority of these temporal ozone mixing ratio series reached maxima and are now decreasing.

Equation 1 can be manipulated to solve for the year that the maximum of the continuous long-term seasonal average ozone mixing ratio was reached, and that year can be

calculated by substituting the coefficient values from Table 1. These years are included in the table for each season and data set; Figure 2 compares the resulting ozone maxima for each season and data set. In the Pacific MBL and at Lassen Volcanic NP the best estimates for the years of the maxima fall between 1999 and 2008, with the same sequence of seasonal maxima (autumn first, followed in order by summer, spring and winter). Although the maxima appear to occur later at Lassen Volcanic NP than in the Pacific MBL, the maxima agree within the 95 percent confidence interval for the differences between the two sites. The best estimate of the year of the maximum of the springtime North American free troposphere data set (2012) is later than the spring maxima of the other two data sets, but this difference is not statistically significant due to the large confidence limits of the North American free troposphere maximum.

The two additional statistics included in Table 1 give indications of the internal climate "noise" superimposed on the long-term trends. The root-mean-square-deviation (RMSD) of the individual seasonal averages from the fits to Equation 1 shows that the internal climate "noise" accounts for 1.8 to 2.8 ppb scatter about the fits. We also calculate the square of the correlation coefficient ( $r^2$ ) for the linear regressions between the seasonal averages calculated from the respective polynomial fits and those measured. These  $r^2$  values approximate the fraction of the variability in each seasonal time series that is captured by those polynomial fits; these values are between 0.3 and 0.7.

#### 4 Discussion and Conclusions

Reducing the Nation's emissions of ozone precursors is the only effective tool available to improve local and regional air quality over the U.S. Emission reduction efforts over multiple decades have yielded dramatic improvement in ozone air quality [e.g., *Parrish and Stockwell*, 2015], but many regions still do not meet the NAAQS. The extent of further reductions necessary for a given region to reach the standard is not quantitatively known, but the reversal of the long-term increase in baseline ozone entering the U.S. from the Pacific will certainly ease the difficulty of achieving further reductions in ozone concentrations. Here we have shown that this reversal has occurred, but we have not established its cause. Recent analyses of satellite data [*Liu et al.*, 2017] indicate that the decades-long increase in NO<sub>x</sub> emissions in China has ended, and that those emissions are now decreasing; this emission change may be at least partially responsible for the observed baseline ozone decrease.

Most published characterizations of the absolute mixing ratios and trends of North American background ozone rely on calculations by global models [e.g., *Fiore et al.*, 2014; *Lin et al.*, 2015; 2017]. Unfortunately, global models only poorly reproduce observed baseline ozone [*Parrish et al.*, 2014; *Derwent et al.*, 2016], so the accuracy of North American background ozone mixing ratios calculated by such models must be considered cautiously. *Fiore et al.* [2014] and *Lin et al.* [2015; 2017] used the GFDL-AM3 chemistry-climate model nudged to re-analysis winds to provide the most extensive characterization of background ozone over the U.S. *Parrish et al.* [2014] investigated the GFDL-CM3 global model, which is closely related to the GFDL-AM3 model, except that it utilizes free-running meteorology. Here, it is informative to revisit the performance of the GFDL-CM3 model for the three data sets considered above; Figure S1 and Table S1 of the Supporting information summarize the model results in the same format as that for the observations illustrated in

Figure 1 and Table 1 above. Large differences between the observed and modeled baseline ozone mixing ratios and trends are apparent. The *a* parameters (reflecting absolute ozone mixing ratios in the year 2000) for the model results are 11 to 18 ppb (i.e. 21 to 64%) higher than for the observations. *Lin et al.* [2012] discuss a similar bias in the GFDL-AM3 with nudged meteorology. Positive biases of similar magnitude are also seen in other global models [e.g., *Yan et al.*, 2016]. *Derwent et al.* [2016] discuss the biases in annual average ozone at Trinidad Head (the primary MBL site considered in this work) for the 14 chemistry-climate models that participated in the Atmospheric Chemistry Coupled Climate Model Intercomparison Project (ACCMIP). To our knowledge, the cause(s) of these biases remain undiagnosed.

Current state-of-the-art chemistry-climate models also greatly underestimate the rate of change of the slope of the temporal trends of baseline ozone (reflected by the *c* parameters) [*Parrish et al.*, 2014]. Model results give much smaller (generally by a factor of ~5) values for this parameter compared to observations. The rapid change of the slopes of the temporal trends in the observations, but not in the model results, can potentially confound any comparison of linear trends between model results and observations. The *b* parameters (equal to the temporal trend slope in the year 2000) do allow a direct comparison; these parameters are generally smaller for the model results than found in the observations (deltas of -0.39 to 0.08 ppb yr<sup>-1</sup> with only autumn in the Pacific MBL exhibiting a model slope higher than the observational result). Slope comparisons for other years or time periods must carefully consider the differing rate of change of these slopes between models and observations. *Parrish et al.* [2014] and *Staehelin et al.* [2017] find that model results capture only ~50% of baseline ozone changes observed over the five decades before the year 2000. This finding is consistent with the closely related finding that the ACCMIP models fail to reproduce pre-industrial observations [*Stevenson et al.*, 2013]. The model results do agree with the observations that maxima have or will be reached in the baseline ozone mixing ratios in all seasons in all data sets. However, as expected from the model-measurement differences in the derived *b* and *c* parameters, the years of the maxima differ between the models and the observations, with the model maxima 7 years earlier to 6 years later, except in winter when the model predicted maxima are much later (~30 years) than observed. It is clear that the GFDL-CM3 global model with free running meteorology only poorly describes baseline ozone mixing ratios and their trends at the North American west coast. Since this baseline ozone is the dominant contributor to North American background ozone, at least in the western U.S., these global models cannot be expected to accurately calculate North American background ozone and its trends in this region.

*Lin et al.* [2012; 2015; 2017] used the GFDL-AM3 model to quantify the internal climate “noise”, and to examine its influence on trend determinations. This model with nudged meteorology does reproduce much of the variability about the long-term trends quantified in the observational record. For example, *Lin et al.* [2015] find that a large fraction (of the variance in observational data sets) is due to internal climate “noise”, rather than the long-term trends. The *r*<sup>2</sup> values given in Table 1 provide an estimate of the fraction of the total variability in the respective data sets due to the long-term trends (i.e., 29 to 69%), which leaves a large fraction of the variability to be accounted for by internal climate “noise” or other causes. *Lin et al.* [2015] also argue that the airborne data that comprise the North American free troposphere data set discussed here, overestimate the magnitude of the long-term changes in springtime free troposphere ozone due to spatial sampling biases combined with interannual variability in transport regimes. These issues may account for the apparently steeper increase in the North American free troposphere data in Figure 1 compared to the two surface measurement data sets. As more years of data are added to the springtime free

troposphere ozone record, these uncertainties are expected to decrease. A notable feature of Figure 1 is that in spring in the free troposphere and at Lassen Volcanic NP the ozone decrease has been slower to begin than in other data sets. This is even clearer at Lassen Volcanic NP if only April and May (the two months included in the free troposphere data set) are considered. *Gratz et al.* [2014] report a trend analysis for April-May, 2004-2013 ozone at an additional site representative of the free troposphere (Mt. Bachelor Observatory in Oregon). This relatively short data record exhibits larger internal climate “noise” than the other data sets, and does not yet indicate that a maximum has been reached in springtime baseline ozone mixing ratios. We have analyzed these data for all seasons through two additional years (to 2015) using the same approach discussed in Section 2.4; the results are statistically consistent (within their large confidence limits) with the analysis of seasonal ozone trends discussed in this work.

### **Acknowledgments and Data**

The authors acknowledge support from NOAA’s Atmospheric Chemistry and Climate Program. The National Park Service provided the recent Lassen NP ozone data (<https://www.nature.nps.gov/air/monitoring/network.cfm>). We are grateful to Dan Jaffe for providing us with the Mt. Bachelor Observatory ozone data. All of the data utilized in this paper are available from public archives that are referenced in this paper, or from the authors of papers referenced herein. Disclosure: David Parrish also works as an atmospheric chemistry consultant ([David D. Parrish, LLC](#)); he has had contracts funded by several state and federal agencies, although they did not support the work reported in this paper.



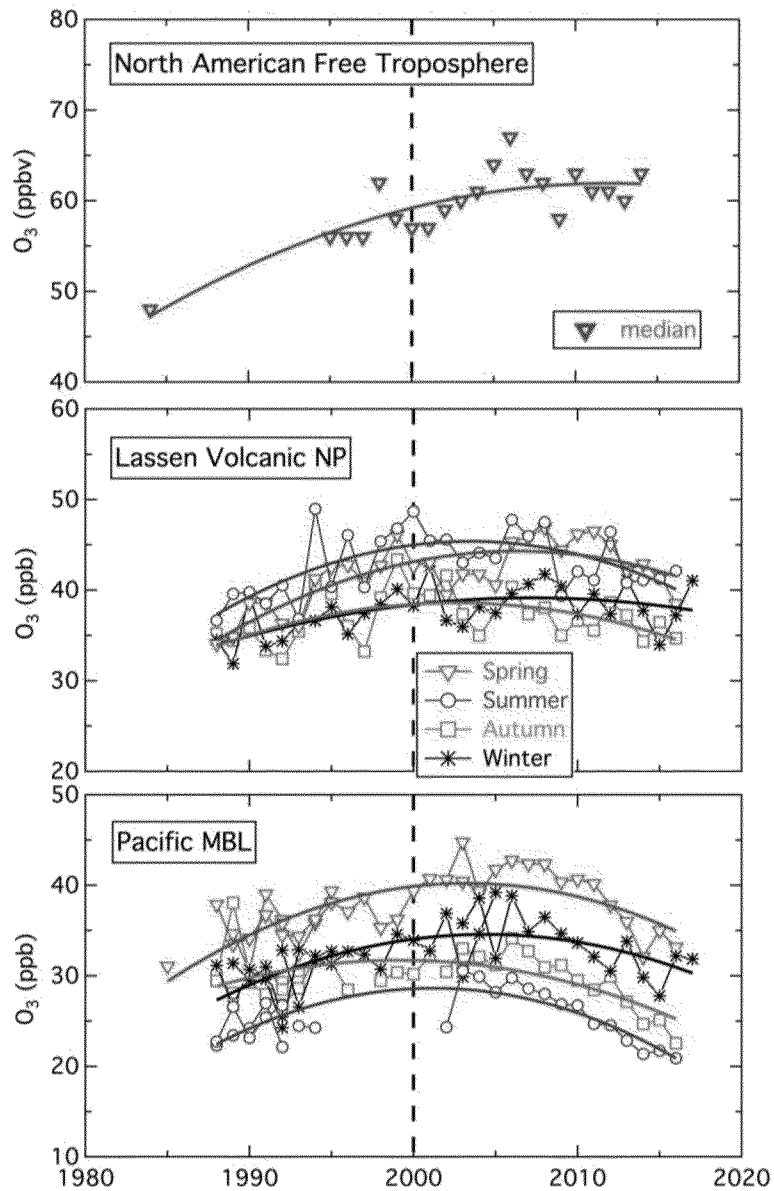
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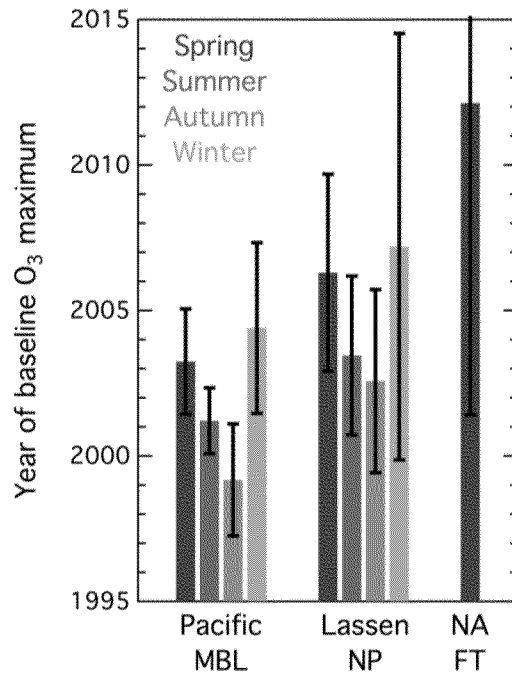
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**Table 1.** Coefficients of the regressions of the measured seasonal average time series to Equation 1, root-mean-square deviation (RMSD), and the year of the maximum of the fits shown in Figure 1. Also included are the squares of the correlation coefficients between the measurements and the regression fits.

Season	$a$ (ppb)	$b$ (ppb yr <sup>-1</sup> )	$c$ (ppb yr <sup>-2</sup> )	RMSD (ppb)	$r^2$	year <sub>max</sub>
Pacific marine boundary layer						
spring	39.9 ± 1.1	0.21 ± 0.09	-0.033 ± 0.012	2.4	0.55	2003 ± 2
summer	28.6 ± 1.3	0.09 ± 0.08	-0.035 ± 0.012	1.8	0.63	2001 ± 1
autumn	31.7 ± 1.1	-0.04 ± 0.09	-0.023 ± 0.012	2.2	0.36	1999 ± 2
winter	34.1 ± 1.3	0.24 ± 0.11	-0.027 ± 0.013	2.7	0.40	2004 ± 3
Lassen Volcanic NP						
spring	43.1 ± 1.2	0.37 ± 0.11	-0.029 ± 0.013	2.2	0.65	2006 ± 3
summer	45.0 ± 1.6	0.23 ± 0.14	-0.034 ± 0.017	2.8	0.43	2003 ± 3
autumn	38.5 ± 1.3	0.12 ± 0.12	-0.022 ± 0.014	2.3	0.29	2003 ± 2
winter	38.4 ± 1.2	0.20 ± 0.11	-0.014 ± 0.012	2.2	0.34	2007 ± 4
North American free troposphere (median)						
April, May	59.2 ± 1.5	0.45 ± 0.15	-0.019 ± 0.015	2.4	0.69	2012 ± 11



**Figure 1.** Seasonal  $O_3$  averages measured in the vicinity of the northern U.S Pacific coast. The solid lines give the least-squares regression of Equation 1 for each seasonal data set described in Section 2. Colors and symbols identify the seasons as indicated in the annotation. Note that the  $O_3$  mixing ratios differ on the three abscissas, but each spans a total range of 40 ppb.



**Figure 2.** Year of maximum seasonal average baseline O<sub>3</sub> mixing ratios in each of the three North American data sets. Error bars give 95% confidence intervals for these determinations.

**From:** Joseph Bast  
**Sent:** Mon 10/2/2017 2:53:23 PM  
**Subject:** Heartland's Sterling Burnett in The Hill

<http://thehill.com/opinion/energy-environment/353232-trump-and-the-end-of-obamas-bitter-war-on-coal>

## Trump and the end of Obama's bitter 'war on coal'

By Sterling Burnett, opinion contributor — 09/30/17 12:00 PM EDT [328](#)

What a difference presidential leadership can make, for good or ill, for an industry's fortunes.

Before he was elected president, [Barack Obama](#) promised to bankrupt coal companies, and after eight years of his administration's anti-energy policies, that pledge turned out to be one of the few promises he kept. Obama imposed regulations limiting coal mining near streams and on mountain tops, allowed cities to block the expansion of coal export terminals and rail lines, and enacted limits on carbon-dioxide emissions, including many that were not justified by any reasonable calculation of human health benefits. His policies contributed to massive job losses in coal country, the premature shuttering of vital coal-fired power plants, and were a factor in profitable coal companies being forced to file for bankruptcy.

As a candidate for president, [Donald Trump](#) promised he would enact policies that would end the "war on coal" launched by the Obama administration and congressional Democrats, halting or slowing the loss of jobs related to coal mining and coal-fired power plants, and he is doing just that.

Coal's virtue is its reliability and abundance; America has a coal supply beneath U.S. soil that could last 200 to 400 years. While many coal-fired power plants have closed because they are unable to compete with low-cost gas-fired power plants, dozens of coal-fired power plants and mines were shuttered prematurely under Obama due to Environmental Protection Agency (EPA) regulations, policies Trump has started to reverse.

For instance, in its first use of the Congressional Review Act under Trump, Congress halted a so-called "Stream Protection Rule" imposed by Obama that would have threatened over one-third of the nation's coal-mining jobs. The Interior Department's own reports show the rule was unnecessary, since coal mines have virtually no offsite impacts and lands are being restored successfully under existing federal and state

regulations.

Trump also issued two “Energy Independence” executive orders affecting coal. One ended a moratorium on new coal leases on federal land and the second declared federal agencies should no longer consider speculative climate change impacts when implementing federal contracts, issuing permits, or formulating planned uses of federal lands.

At Trump’s direction, EPA is in the process of reviewing the Obama administration’s Clean Power Plan, and the expectation is the Trump administration will rescind or significantly reshape its limits on carbon-dioxide emissions from existing and new power plants.

Trump’s early energy actions have paid job dividends in coal country. The Department of Labor reported mining jobs in America grew by 11,000 in March and by another 7,000 in May. In June, EPA Administrator Scott Pruitt said the United States had since the beginning of 2017 added more than 50,000 jobs throughout the coal supply and use chain.

Additionally, under Trump’s leadership, the first and second largest coal companies in the United States, Peabody Energy and Arch Coal, which had been forced into insolvency in part by Obama’s climate policies, emerged from bankruptcy. And in June, Corsa Coal Company opened the Acosta Mine, the first new coal mine to open in the past six years.

In early September, Parinaga Resources announced it was building a new coal mine in Kentucky, which it expects to begin producing coal in mid-2018. Parinaga is also constructing another mine, which will begin producing by early 2019. In an interview on FOX Business News, Parinaga’s CEO, Grant Quasha, credited the Trump administration’s efforts to roll back regulations on coal production and use for helping him secure the funding needed for the project.

“All we had to do was raise the money,” Quasha said. “On the back of the Trump administration coming into the Oval Office and ending the war on coal, we were able to successfully raise approximately \$40 million worth of financing in the Australian equity markets to help build out this mine.”

The coal industry has also benefitted from a boom in coal exports since Trump took office. U.S. coal exports to Europe have risen by 70 percent compared to the first quarter in 2016, while exports to Asia have risen by approximately 50 percent. Driven primarily by the growth in exports, coal production in the United States has increased by 14 percent since December 2016, and revenue at publicly traded U.S. coal companies grew by 19 percent in the first half of this year compared with the same period one year ago.

I have no love for coal — nor for any other particular source of energy, for that matter. I don’t think coal should be subsidized, but I also don’t think it should be discriminated

against by the government, which uses harmful regulations that raise electric bills but do nothing to protect human health or the environment.

Americans should have access to reliable, relatively inexpensive energy sources that can power the conveniences that make modern life modern. Coal's virtues are its domestic abundance, relative affordability, and reliability as a source of fuel — characteristics solar and wind power just can't match, even though they continue to receive massive subsidies from the government.

One day — probably long after I'm dead — other ways to generate electricity will arise that, like coal and natural gas, are cheap and reliable. When that occurs, coal and natural gas will likely fade into history, as they should under those circumstances. Until then, three cheers for coal and the coal industry's nascent recovery!

*Sterling Burnett, Ph.D. is a research fellow on energy and the environment at The Heartland Institute, a nonpartisan, nonprofit research center headquartered in Arlington Heights, Illinois.*



**From:** Joseph Bast  
**Sent:** Tue 12/26/2017 7:19:32 PM  
**Subject:** It doesn't get more alarmist than this.

A real true believer, this one:

-

<http://www.cnn.com/2017/12/26/opinions/earth-from-space-climate-change-opinion-mark-kelly/index.html>

Joe

Joseph Bast

Chief Executive Officer

The Heartland Institute

3939 N. Wilke Road

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Phone [312/377-4000](tel:3123774000)

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Web site <http://www.heartland.org>

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**From:** Joseph Bast  
**Sent:** Tue 10/10/2017 8:23:24 PM  
**Subject:** Steve Goreham: Friends of Science Videos

Some great stuff here. Please forward to friends and foes alike.

Joe

**From:** Steve Goreham [mailto: ] **Ex. 6 - Personal Privacy**  
**Sent:** Tuesday, October 10, 2017 2:25 PM  
**To:** Joseph Bast  
**Subject:** Friends of Science Videos

Dear Joe:

I hope that you are having a great fall.

Earlier this year I presented at a dinner hosted by the Friends of Science in Calgary, Canada. FOS is an organization working for common sense regarding climate and energy policy.

Michelle Stirling of FOS interviewed me and developed the three videos below.

Globally warm regards,

Steve

Steve Goreham

[www.stevegoreham.com](http://www.stevegoreham.com)

New Lenox, IL USA

“Real World” video clip, 4:12 minutes:



“Superstition video clip, 5:03 minutes:



“The Business of Common Sense on Green, 4:14 minutes:





**To:** Konkus, John[konkus.john@epa.gov]  
**From:** Jim Lakely  
**Sent:** Tue 10/10/2017 8:21:40 PM  
**Subject:** RE: Online Resources  
[AFEC Invitation to Scott Pruitt.pdf](#)

Thanks, John. I've updated it with the signature of Tim Huelskamp, our new president. And it's dated yesterday ... though our first request was many weeks ago. It also references our previous request to have him speak at our 12<sup>th</sup> International Conference on Climate Change back in March, which he also had to decline. We've wanted to bring him in to speak for a loooooong time.

Thanks for your help!

Jim Lakely  
Director of Communications  
The Heartland Institute  
3939 North Wilke Drive

Arlington Heights, IL 60004

o: 312.377.4000  
c: 312-731-9364  
Twitter: @HeartlandInst

**America First Energy Conference**  
NOVEMBER 9, 2017 · HOUSTON, TEXAS

**From:** Konkus, John [mailto:konkus.john@epa.gov]  
**Sent:** Tuesday, October 10, 2017 2:52 PM  
**To:** Jim Lakely  
**Subject:** RE: Online Resources

The scheduling department is asking if you can resend me the invitation as they can't seem to track it down. Glad I asked :/

**From:** Jim Lakely [mailto:JLakely@heartland.org]  
**Sent:** Tuesday, October 10, 2017 3:30 PM  
**To:** Konkus, John <konkus.john@epa.gov>

**Subject:** Re: Online Resources

Thanks, John. We'll share some of that with our social media accounts.

While I've got you, Heartland has invited Scott Pruitt to be a keynote speaker at our [America First Energy Conference](#) on November 9 in Houston. I think it would be a great venue for the administrator to deliver a major address talking about the end of the Clean Power Plan. Do you know the status of our invitation and the chances of him accepting it?

Best,

Jim Lakely  
Director of Communications  
The Heartland Institute  
3939 North Wilke Road  
Arlington Heights, IL 60004  
o: 312-377-4000  
f: 312-377-5000  
c: 312-731-9364  
Twitter: @HeartlandInst

**From:** "Konkus, John" <[konkus.john@epa.gov](mailto:konkus.john@epa.gov)>  
**Date:** Tuesday, October 10, 2017 at 2:24 PM  
**To:** "Konkus, John" <[konkus.john@epa.gov](mailto:konkus.john@epa.gov)>  
**Subject:** Online Resources

Here are some official EPA online resources promoting today's action on CPP. Feel free to repost and share.

EPA Homepage: <https://www.epa.gov/>

EPA Twitter: <https://twitter.com/EPA/status/917806465062260738>



EPA Air Office Twitter: <https://twitter.com/EPAair/status/917809327599181825>

Administrator Pruitt Twitter: <https://twitter.com/EPAScottPruitt/status/917802478845988864>

EPA Facebook: [https://www.facebook.com/EPA/?hc\\_ref=ARSr6RzCgQ0tB23ZzO-5z0iW-mIKLlZMzissW0s3FCtjh3iIDw2wkvU\\_0MkV3DUb3Kc&fref=nf](https://www.facebook.com/EPA/?hc_ref=ARSr6RzCgQ0tB23ZzO-5z0iW-mIKLlZMzissW0s3FCtjh3iIDw2wkvU_0MkV3DUb3Kc&fref=nf)

Administrator Pruitt Facebook:

<https://www.facebook.com/ajax/sharer?appid=586254444758776&s=100&u=https%3A%2F%2Fwww.epa.gov%2Ftakes-another-step-advance-president-trumps-america-first-strategy-proposes-repeal>

EPA YouTube: <https://www.youtube.com/watch?v=OpIAkmEWEYg&sns=tw>

EPA Instagram: <https://instagram.com/p/BaE8Q4QFvLs/>

John Konkus

Environmental Protection Agency

Deputy Associate Administrator for Public Affairs

Mobile: Ex. 6 - Personal Privacy



October 9, 2017

A nonprofit organization devoted to discovering and promoting free-market solutions to social and economic problems.

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*E-newsletters:*

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*School Choice Weekly*  
*Consumer Power Report*  
*The Leaflet*  
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**HOST OF**

International Conferences on Climate Change (ICCC)

Emerging Issues Forum

3939 North Wilke Road  
Arlington Heights, IL 60004  
phone 312/377-4000  
email think@heartland.org  
web: www.heartland.org

EPA Administrator Scott Pruitt  
Environmental Protection Agency  
Office of the Administrator, 1101A  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Dear Administrator Pruitt:

Thank you for everything you've been doing to advance President Trump's agenda, and bring common sense and good science back to the Environmental Protection Agency. I was sorry your schedule didn't allow you to speak at our Twelfth International Conference on Climate Change, held March 23-24 in Washington DC. It was a huge success!

I am writing with a special request. The Heartland Institute would be honored if you would accept a keynote speaking slot at our America First Energy Conference in Houston, Texas on Thursday, November 9, 2017.

The conference's purpose, as the name suggests, is to promote the Trump administration's excellent agenda on that topic – one that abandons the dead-end “green energy” push of the Obama years. We expect an audience of several hundred energy industry leaders at Houston's J.W. Marriott Galleria – as well as a healthy contingent of media – and we've reserved two of our three plenary keynotes for you: 8 a.m or noon on Thursday, November 9.

For more details about the American First Energy Conference, visit [AmericaFirstEnergy.org](http://AmericaFirstEnergy.org). I can also send more materials to your staff for review.

I hope you or your scheduler can give me a call soon with a “yes,” and any other questions you might have regarding our event. You can reach me at 312/377-4000, or by email at [thuelskamp@heartland.org](mailto:thuelskamp@heartland.org).

Please know that everyone here at Heartland is pulling for you and the entire Trump administration to be a success. Nothing less than the future of liberty is riding on it!

Sincerely,

Tim Huelskamp  
President



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**From:** Joseph Bast  
**Sent:** 12/24/2017 9:55:12 PM  
**Subject:** Heartland replies to Inside Climate News

“Inside Climate News,” a fake news site for the liberal environmental movement, ran a pretty long piece two days ago about us and some of our allies in the climate debate, and included a rather neat graphic showing Heartland and The Heritage Foundation as leading the effort to influence President Trump’s views on climate change.

The article is [here](#), My reply is below. I hope Jim Lakely can post it and put a link to it in our “[Reply to Our Critics](#)” feature.

Merry Christmas!

Joe

### **Heartland Replies to *Inside Climate News***

By Joseph L. Bast  
CEO, The Heartland Institute  
December 24, 2017

Neela Banerjee’s December 22 article for *Inside Climate News*, titled “[How Big Oil Lost Control of Its Climate Misinformation Machine](#),” is a “Through the Looking Glass” history of the climate change debate. Here are some corrections.

The awful “billboard campaign” Banerjee describes in her opening paragraph consisted of one billboard created by The Heartland Institute that ran in 2012 for less than 24 hours on a single site along a freeway in suburban Chicago. It cost about \$500. But it apparently will live in infamy in the minds of environmental activists.

The billboard indeed featured a picture of Ted Kaczynski, the Unabomber. The text read “I still believe in global warming. Do you?” It mimicked other ad campaigns that use celebrities to push a cause, and reminded liberal environmentalists that their favorite cause also is championed by a murderer and madman.

The billboard hit its target hard, as good satire does. It broke a news blackout that environmentalists and the legacy media had imposed on Heartland and other groups that challenged the Gore-Obama dogma on global warming. Far from hurting Heartland, as Banerjee claims, it saved us: 2012 was a [breakthrough year](#) for us with record funds raised, record media attention, and record attendance at our events.

That year also marked the moment Heartland’s views on climate change moved from marginal to mainstream. New scientific research, [opinion polls](#), and political support all show a shift in the debate away from “the sky is falling” alarmism to “it’s mostly natural and only liberals still believe in it” realism. We’ve been winning the debate ever since.

Banerjee writes, “Hundreds of millions of dollars from corporations such as ExxonMobil and wealthy individuals such as the billionaires Charles and David Koch have supported the development of a sprawling network, which includes Heartland and other think tanks, advocacy groups and political operatives.” No, this isn’t true.

Most of the money was spent by oil, natural gas, and the nuclear energy industry trying to throw the coal industry under the bus, paying for a long series of “we’re part of the solution” ad campaigns pandering to low-information consumers and aimed at appeasing the left. That didn’t work.

ExxonMobil did contribute around \$50,000 a year to Heartland for about a decade, and reported this in its annual

reports. It was never a secret, and never more than 5% of our annual budget. The Kochs never gave us even that much, stopped earlier, and never funded our work on climate change.

Exxon stopped giving to us ten years ago, in 2007, precisely because we concluded man-made climate change is not a crisis. Exxon's position, then and now, is that climate change *may* be a crisis, but solutions require either a "carbon tax" (which no conservative think tank endorses) or an international treaty imposing real restrictions on emissions by India and China, which will never occur. That stance may be good corporate PR, but it's not good enough for a think tank devoted to finding and speaking the truth.

Banerjee reports a recent incident at a meeting of the American Legislative Exchange Council, where ExxonMobil and a few other big corporations and trade associations blocked a resolution calling on EPA to withdraw its endangerment finding. A majority of legislators supported our resolution, but the corporate members feared they would be targeted by environmental groups and legacy media for supporting "global warming denial." It's hard to blame them for that.

Banerjee quotes some of the usual suspects dishing *ad hominin* attacks against us. The first is Jerry Taylor, founder of something he calls the Niskanen Center, who used to be a global warming skeptic until his paychecks started to be signed by billionaire alarmist Jay Faison and the far-left Rockefeller Brothers Fund. Not a credible source.

Next up is Greenpeace, which has been pushing the line that conservative groups are paid to lie about global warming ever since it was fed to them by Al Gore. One supposes their heads would explode if they had to admit that Heartland, the conservative group doing more on the global warming issue than any other think tank in the world, gets nothing from Exxon or the Kochs. Not a credible source.

Next in line is Robert Brulle, a "professor of sociology at Drexel University," often cited by the liberal media as an expert on conservative think tanks in the climate change debate. But his work is inaccurate and has been thoroughly debunked. He's just another liberal activist pretending to be a "social scientist." Not a credible source.

Banerjee stoops to attack a distinguished climate scientist, Dr. Willie Soon, claiming his "notion" that that solar cycles drive climate change "has been discredited by mainstream science." No source given. Of course it has not. The United Nations' Intergovernmental Panel on Climate Change (IPCC) simply assumed away a major role for solar cycles, and mounting evidence suggests Soon and other solar physicists had it right all along.

Why did *Inside Climate News* run a piece littered with factual errors and relying on discredited sources? Maybe because *Inside Climate News* isn't what its title says it is. It was started as a PR project by liberal environmentalists, and "many of their biggest funders also support environmental organizations such as the Sierra Club and Earthworks and environmental activists including 350.org founder Bill McKibben."

Sort of sounds like a "climate misinformation machine," doesn't it?

###

---

**From:** Hal Doiron [mailto:[hal@seclive.org](mailto:hal@seclive.org)] **Ex. 6 - Personal Privacy**

**Sent:** Saturday, December 23, 2017 1:56 PM

**To:** willie soon; William Happer; Joseph Bast; Tim Huelskamp; Jim Lakely; Jay Lehr (External); Thomas Wismuller

**Cc:** Susan Crockford

**Subject:** Re: Fwd: Anti-climate campaign gets too extreme for Exxon, but Trump is listening

At least she understands she and her loyal readers are losing the battle when she writes.....

The Heartland Institute's **rise to policy prominence** marks a break from previous brokers of climate denial, because it promotes a narrative that was once rejected as too extreme and divorced from accepted climate science. The narrative—that excessive carbon dioxide is beneficial for the Earth—is now backed by some in the EPA and the White House and is deployed as a weapon against the endangerment finding. One of Heartland's policy experts, Kathleen Hartnett White, who has called carbon dioxide "the gas of life," was nominated by the administration to lead the White House Council on Environmental Quality.

I liked her road map graphic showing how we got to the Present. It could be turned against her arguments with a little accurate updating. I wish she could have spoken with Roger Cohen in Dec 2014 like I did at Will Happer's steering group meeting in Washington DC to form the CO2Coalition.org. That would have helped her understand why as truly concerned scientists began to understand the AGW issue more clearly and accurately, their concerns were alleviated. The Right Climate Stuff research team began our objective, independent AGW assessment with several concerned NASA-retiree scientist team members who now assure me their original concerns have been thoroughly addressed and erased.

I wanted to leave a public comment on the many shortcomings of this article, but didn't see a way to do this. I have the author's email address but would want her readers to see my comments. Her emphasis on big oil's pittance of contributions to objective researchers and conservative Think Tanks in comparison to the \$100's of Billions the US Gov't has invested in building a corrupted "scientific consensus" on the AGW threat that ignores The Scientific Method, needs to be understood by the US Taxpayer.

Someone needs to update this failing and flailing writer on Kathleen's PhD degree from Stanford....Hal



Harold H. Doiron, PhD

## Ex. 6 - Personal Privacy

On Saturday, December 23, 2017, 12:40:03 PM CST, Thomas Wismuller <[tom@colderside.com](mailto:tom@colderside.com)> wrote:

**Another day - Another Hit Piece. Good Grief!**

**Think we'll get a break 'tween Christmas & New Year's?**

**Breath not being held!**

**Tom**

**PS I guess it confirms that fiction is popular - even really bad fiction such as "*Terror at the top of the World*" that claims the "... land, this fjord, belonged to the bears." as opposed to the Inuit, and that "...flies and mosquitoes that swarmed ... were new..."**

Begin forwarded message:

**From:** InsideClimate News <[newsletters@insideclimatenews.org](mailto:newsletters@insideclimatenews.org)>

**Subject:** Anti-climate campaign gets too extreme for Exxon, but Trump is listening

**Date:** December 23, 2017 at 12:34:11 PM EST

**To:** <[tom@colderside.com](mailto:tom@colderside.com)>

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## WEEK IN REVIEW

*All ICN's original content and the most important headlines  
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Hundreds of millions of dollars from oil companies and wealthy individuals have supported a sprawling network of think tanks and advocacy groups that has worked for



years to cast doubt about climate change. Now, the more hardline groups are leading the charge, with direct access to the White House, and they're taking climate denial farther than many fossil fuel companies can support. The latest chapter in our [investigation](#) of the fossil fuel industry's influence follows the shifting control of the public climate denial campaign.

Also, don't miss the latest story in our Finding Middle Ground series. Meera spent time with a family of dogsled racers who are seeing the snow their sport relies on disappear.



## How Big Oil Lost Control of Its Climate Misinformation Machine

BY: NEELA BANERJEE

One of the longest and most consequential campaigns against science in modern history is becoming more extreme—and turning against its originators.

*Credit: Paul Horn*

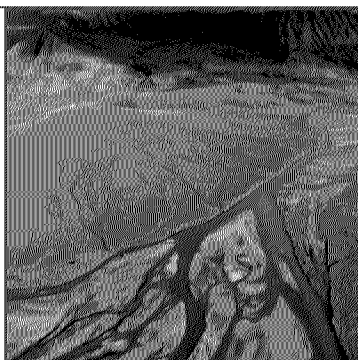


## As Snow Disappears, A Family of Dogsled Racers in Wisconsin Can't Agree Why

BY: MEERA SUBRAMANIAN

A father and daughter have been running sled dogs for more than 25 years. It's easier for them to talk dogs than politics, weather than climate.

*Credit: Meera Subramanian*



## Congress Opens Arctic Wildlife Refuge to Drilling, But Do Companies Want In?

BY: SABRINA SHANKMAN

After the tax bill vote cleared the way for drilling, conservation groups vowed to 'shine a very bright light' on any company planning to drill one of the

nation's last untouched wilderness areas.

*Credit: Katrina Liebich/U.S. Fish and Wildlife Service*

### **Did you hear?**

"This didn't come out of nowhere. Trump was taught to say these things on climate by Heartland, the Competitive Enterprise Institute and other think tanks. They maintained this denial space in public policy dialogue."

—Kert Davies, director of the Climate Investigations Center, on [anti-climate-science](#) rhetoric



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## Electric Trucks Begin Reporting for Duty, Quietly and Without All the Fumes

BY: ERICA GIES

Replacing fleets of medium- and heavy-duty trucks can help cut greenhouse gas emissions and make cities quieter and cleaner.

## Tax Bill Preserves Critical Tax Credits for Wind, Solar and Electric Vehicles

BY: GEORGINA GUSTIN

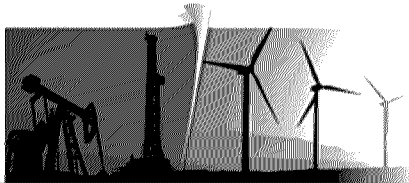
Despite the oil and gas industry's push against renewables, the bill approved by Congress keeps clean energy incentives, but it also includes Arctic drilling.

## Trump's EPA Starts Process for Replacing Clean Power Plan

BY: GEORGINA GUSTIN

The Clean Power Plan was the Obama administration's key climate change policy for cutting greenhouse gas emissions from power plants.

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CLEAN ECONOMY WEEKLY

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2017 YEAR IN REVIEW

## The New Climate Watchdogs: Democratic Attorneys General Take on Trump

BY: DAVID HASEMYER

A blue-state coalition filed nearly two dozen lawsuits in 2017 involving climate change, energy and the environment.

2017 YEAR IN REVIEW

## For Exxon, a Year of Living Dangerously

BY: DAVID HASEMYER

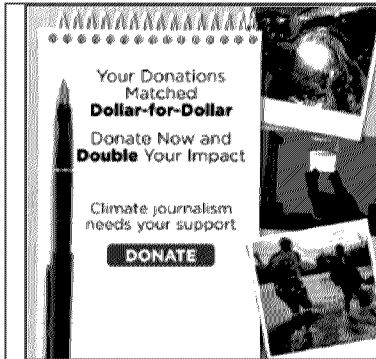
The oil giant faced setbacks as it fought to stop two state climate fraud investigations, but both sides have dialed back the rhetoric. Is something about to change?

## Could Exxon's Climate Risk Disclosure Plan Derail Its Fight to Block State Probes?

BY: DAVID HASEMYER

Massachusetts's attorney general argues that Exxon's announcement amounts to an admission that the company previously failed to sufficiently disclose the impact climate

change was having on its operations.



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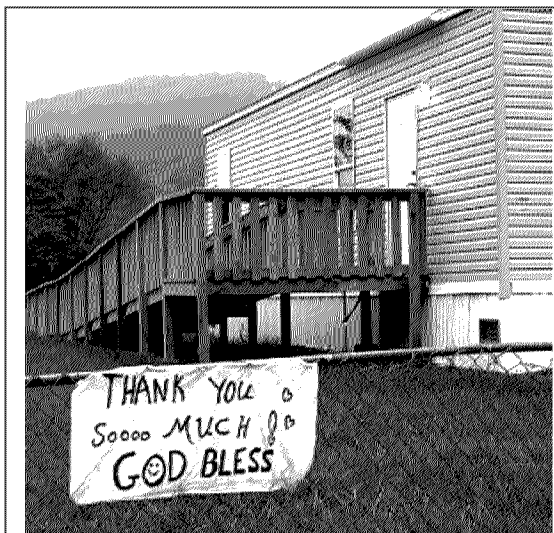
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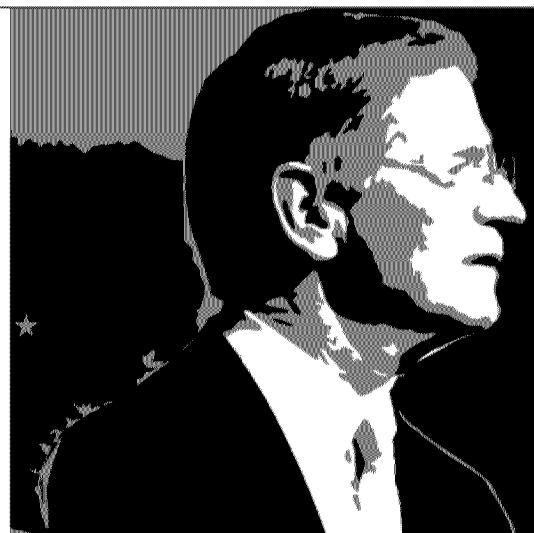
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## In Case You Missed It



[Seeing God's Hand in the Deadly Floods,  
Yet Wondering about Climate Change](#)



[How Fossil Fuel Donors Shaped the  
Anti-Climate Agenda of a Powerful  
Congressional Committee](#)

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## TODAY'S CLIMATE

[In 'Defense of Science,' Researchers Sue EPA Over Advisory Board Changes](#)  
(Washington Post)

[Pentagon Strategy Document Will Not Include Climate Change, Official Says](#)  
(Reuters)

[What It's Like Inside the Trump Administration's Regulatory Rollback at the EPA](#)  
(ProPublica)

[B.H.P. Billiton, Acknowledging Climate Change, to Quit Coal Group](#)  
(The New York Times)

[Trump Administration Targets Certain Words, and Bureaucracy Pushes Back](#)  
(Washington Post)

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# CLEAN ECONOMY

[Solar Companies Go Door-to-Door in Battle With Tesla](#)

(Bloomberg)

[California Wildfires Spark Utility Investigations and New Regulations](#)

(Greentech Media)

[NY City Comptroller Proposes Pension Funds Cut Fossil Fuel Portfolio](#)

(Reuters)

[What Needs to Happen Before Electric Cars Take Over the World](#)

(The New York Times)

[Carbon Loophole: Why Is Wood Burning Counted as Green Energy?](#)


(Yale360)

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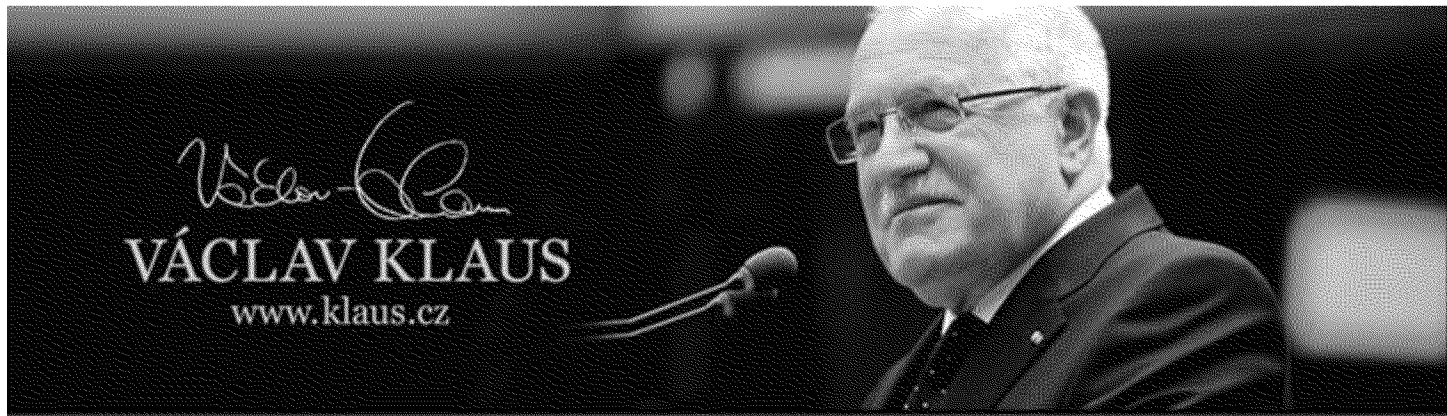
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**From:** Joseph Bast  
**Sent:** Sun 12/24/2017 5:59:47 PM  
**Subject:** Vaclav Klaus speech on climate change

A very nice, and short, commentary on the climate change debate by a former prime minister (and frequent speaker at Heartland's ICCCs). Thanks for posting this, Calvin Beisner.

Joe

[http://cornwallalliance.org/2017/12/vaclav-klaus-lets-not-give-up-fighting-climate-alarmism-it-is-never-late/?utm\\_source=Cornwall+Alliance+Newsletter&utm\\_campaign=929454a14c-EMAIL\\_CAMPAIGN\\_2017\\_12\\_22&utm\\_medium=email&utm\\_term=0\\_b80dc8f2de-929454a14c-153373801](http://cornwallalliance.org/2017/12/vaclav-klaus-lets-not-give-up-fighting-climate-alarmism-it-is-never-late/?utm_source=Cornwall+Alliance+Newsletter&utm_campaign=929454a14c-EMAIL_CAMPAIGN_2017_12_22&utm_medium=email&utm_term=0_b80dc8f2de-929454a14c-153373801)



*Dr. Václav Klaus, first Prime Minister (1993–1998) and second President of the Czech Republic (2003–2013) and an economist who advocates free markets, delivered this speech at the conference of Association des Climato-réalistes, Musée Social, Paris, December 7, 2017. We are grateful for President Klaus's permission to publish it here, and we commend him and thank God for his courageous, intelligent, and persevering defense of freedom and reason.*

*-- Calvin Beisner, Cornwall Alliance*



Ladies and gentlemen,

Many thanks for the invitation and for the possibility to participate in this important gathering. It is great to be in France after many years and to see Paris as it looks in the era of mass migration.

I travel abroad almost permanently, but not to France. I don't know whether it is my fault or something else. It may be partly caused by my inability to speak French, something I consider a great deficiency of mine, partly by the evident discrepancy between my views and the mainstream French thinking.

Nevertheless, I was in the last couple of years inspired by the works of several French authors, such as Michel Houellebecq, Pascal Bruckner, Pierre Manent, Alain Finkielkraut, not to speak about my old friends such as Pascal Salin. It gave me a new motivation to be in contact with France and its intellectuals.

I must admit that I was not – until very recently – aware of the French Association des Climato-réalistes, of its activities, and of its ability to organize such an important gathering as today's one. Many thanks for bringing me here and for giving me a chance to address this distinguished audience.

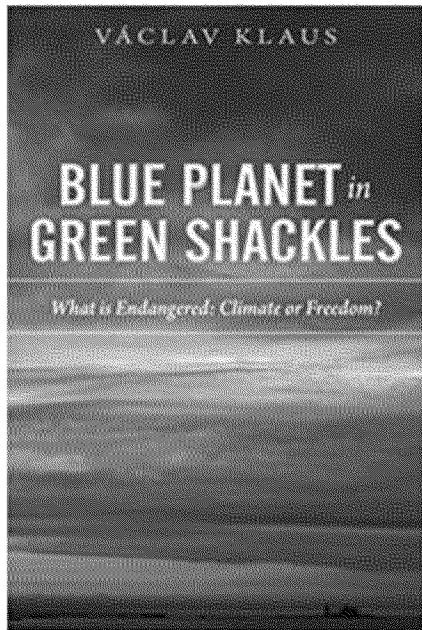
The issue of climate alarmism, of man-made and human society endangering global warming has become one of my main topics as well as worries. **I strongly disagree with the global warming doctrine** which is an arrogant, human freedom and prosperity of mankind endangering set of beliefs, an ideology, if not a religion. **It lives independently of the science of climatology.** Its disputes are not about temperature, they are part of the “conflict of ideologies”.

My way of looking at this topic is based

– on a very special experience gained **under the communist regime** in which I spent two thirds of my life. This experience sharpened our eyes. We became oversensitive to all attempts to violate freedom, rationality and free exchange of views, we became oversensitive to all attempts to impose on us the dogmas of those who consider themselves better than the rest of us. In the communist era, we witnessed an irrational situation when science was at the same time promoted and prohibited, praised and celebrated, manipulated and misused. I have very similar feelings now;

– on my **being an economist** who has strong views about the role of markets and governments in human society and economy, about the role of visible and invisible hands in controlling our life and shaping our future and who considers the politically based interventions in the economy connected with the ambitions to fight climate absolutely untenable;

– on my **being a politician** for 25 years of my recent life who has always been fighting all variants of green ideology, and especially its highlight, the global warming doctrine. I have been for many years intensively involved in the world-wide, highly controversial and heavily manipulated **debate about global warming** and about the role of human beings in it. I was the only head of state who dared to openly express a totally dissident view at the UN General Assembly already 10 years ago<sup>[1]</sup>.



I actively participated in this debate in many ways, most visibly by a book with the title “**Blue Planet in Green Shackles**” which was published in 18 languages around the globe (its French version under the title “*Planete Bleue en Pêril Vert, Institut de Recherches Economiques et Fiscales, Aix-en-Provence, 2009*”). This year I published a sequel “**Shall we be destroyed by climate or by our fighting the climate?**” (only in Czech now, the English version forthcoming soon).

I don’t agree with the so called **consensus** proclaimed about this issue by the global warming alarmists. The real consensus is very narrow. The scientists – and all rational human beings – agree that temperatures have warmed **in the past two centuries** and that human activities may have played **some role** in it. Nothing else. It is evident that both **the size of warming and its causes** continue to be hotly debated. There is absolutely no consensus in this respect.

The politicians who signed **the Paris Agreement** two years ago are either not aware of the missing scientific ground for it or are aware of it but signed it because it serves their personal or political interests. It may be both – **the ignorance and dishonesty**.

The politicians understood that playing the global warming card is an easy game to play, at least in the short or medium term. And they know, together with Keynes, that in the long run we are all dead. The problem is that the politicians do not take into consideration the long-term consequences of policies based on this doctrine. They hope the voters would appreciate their caring about issues more substantial than the next

elections.

The global warming can be summarized in the following way:

1. It starts with the claim that there is an undisputed and undisputable, empirically confirmed, statistically significant, global, not local, warming;
2. It continues with the argument that the time series of global temperature exhibits a growing trend which dominates their cyclical and random components. This trend is supposed to be non-linear, perhaps exponential;
3. This trend is declared to be dangerous for the people (in the eyes of “soft” environmentalists) and for the planet (by “deep” environmentalists);
4. The growth of average global temperature is postulated as a solely or chiefly man-made phenomenon attributable to growing emissions of CO<sub>2</sub> from industrial activity and the use of fossil fuels;
5. The sensitivity of global temperature to even small variations in CO<sub>2</sub> concentration in the atmosphere is supposed to be very high;
6. The ongoing temperature increases can be reversed by radical reduction in CO<sub>2</sub> emissions, which should be organized by means of the institutions of “global governance”. They forget to tell us that this is not possible without undermining democracy, the independence of individual countries, human freedom, economic prosperity and a chance to eliminate poverty in the world.

**I do not believe in any one of these six articles of faith** and I am glad not to be alone. There are many natural scientists and also social scientists, especially economists, who do not believe in them either. The problem is that the genuine scientists (or most of them) do science and are not willing to be involved in discussing this doctrine in the public space.

**How to make a change?** I dare say that science itself will not make it. The Global Warming Doctrine is not based on science. Accordingly, scientific debate itself cannot bring it into disrepute.

I am also afraid that a decisive change cannot come as a result of new empirical data. It is evident that the current temperature data confirm neither the alarmist and apocalyptic views of the believers in the GWD, nor their quasi-scientific hypotheses about the exclusivity of the relationship between CO<sub>2</sub> and temperature. As we all know, the statistical data didn't show a global warming for the 18 years between 1998 and 2015.

Discussing technicalities in more and more depth will not help us either, because the supporters of the global warming doctrine are not interested in them. **Their ideas are the ideas of ideologues**, not of scientists or climatologists. Data and theories, however sophisticated, will not change their views.

The same is true about the economic dimension of this debate. If somebody wants to reduce if not to eliminate CO<sub>2</sub> emissions, he must either expect **a revolution in economic efficiency**(which determines emissions intensity) or start organizing **a world-wide economic decline**. Nothing else is possible.

Radically diminishing CO<sub>2</sub> emissions has both short-term and long-term consequences. To analyse them requires to pay attention to intertemporal relationships and to look at opportunity costs. It is evident that **by assuming a very low, near-zero discount rate the proponents of the global warming doctrine neglect the issue of time and of alternative opportunities. A low discount rate used in global warming models means harming current generations** (vis-à-vis future generations). We should not accept claims that by adopting low discount rates we protect the interests of future generations, or that opportunity costs are irrelevant because in the case of global warming the problem of choice does not exist. This uneconomic or perhaps anti-economic way of thinking must never be accepted.

As someone who personally experienced central planning and attempts to organize the whole of society by directives from above, I feel obliged to warn against the arguments and ambitions of the believers in the global warming doctrine. Their arguments and ambitions are very similar to those we used to hear when living under Communism. These dangerous ideas should be resisted. It must be done at the political level. We have to explain it to the common people.

[1] Statement by President of the Czech Republic at the General Debate of the 62nd Session of the General Assembly of the United Nations, New York, September 26, 2007. You can find it here: [www.klaus.cz/clanky/1109](http://www.klaus.cz/clanky/1109).

Joseph Bast

Chief Executive Officer

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**From:** Joseph Bast  
**Sent:** Sat 9/30/2017 6:00:53 PM  
**Subject:** Last week's second Red Team briefing  
[Briefing Book.pdf](#)

Friends,

Last week, 40 AGW realists participated in a day-long briefing here in Arlington Heights about EPA Administrator Scott Pruitt's proposal to organize a Red Team-Blue Team exercise to reconsider the science, economics, and law of the Obama era. Like the first meeting held in Washington DC in June, which attracted 45 guests, it broke down walls between disciplines and helped us all become more effective communicators on the climate change issue.

The handout I prepared for the meeting is attached. I believe you will find, if you spend some time flipping through it, that it has a lot of useful information in it.

A third briefing is planned for November 8 in Houston, prior to Heartland's [America First Energy Conference](#) taking place the next day at the same venue. If you didn't attend the first or second Red Team briefings and wish to attend the third one, please let me know. Except for a few speakers, we are trying to avoid repeat guests.

If you attended this week's meeting, watch for a wrap-up email from me later today.

Best regards, and enjoy the weekend!

Joe

Joseph Bast

Chief Executive Officer

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Red Team  
Second Briefing Session

# Briefing Book



September 27-28, 2017





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John Sicilian, “Trump administration lining up climate change ‘red team.’” *Washington Examiner*, July 24, 2017.

David Schnare, “Schnare, former transition official, on his departure, EPA climate science review,” *Inside EPA*, July 25, 2017.

Steven Koonin, “A ‘Red Team’ exercise would strengthen climate science,” *Wall Street Journal*, April 20, 2017.

### 3. Climate Science (pp. 23-37)

Steven Koonin, “Climate science is not settled,” *Wall Street Journal*, September 19, 2014.

Heartland Institute, “Summary of *Climate Change Reconsidered*.”

Heartland Institute, “Ten Things You Need to Know about Global Warming.”

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Pew Research Center, “Clinton, Trump voters sharply diverged on seriousness of an array of problems,” Survey conducted October-November 2016.

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Kevin Dayaratna and David Kreutzer, “Loaded DICE: An EPA Model Not Ready for the Big Game.” (abstract), November 21, 2013.

Kevin Dayaratna and David Kreutzer, “Unfounded FUND: Yet Another EPA Model Not Ready

for the big game,” (abstract), April 29, 2014.

Kevin Dayaratna and Nicolas Loris, “Rolling the DICE on environmental regulations: A close look at the social cost of methane and nitrous oxide,” (abstract) January 19, 2017.

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Heartland Institute’s “Energy and environment action plan for President Trump”

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Republican Party 2016 Platform, “America’s Natural Resources”

Kevin Dayaratna, David Kreutzer, and Nicolas Loris, “Time to Unlock America’s Vast Oil and Gas Resources,” (abstract), September 1, 2016.

# 1. Agenda and Featured Speakers Bios

<b>Wednesday, September 27</b>		
Early-arriving guests are welcome to come to Heartland for a casual buffet dinner. 5:30 p.m. - 8:00 p.m.		
<b>Thursday, September 28</b>		
<b>Time</b>	<b>Speaker</b>	<b>Presentation</b>
8:00 a.m.	---	Doors open for breakfast.
8:30 a.m.	<b>Introductory Remarks</b> Joseph Bast	<b>Welcome</b> Why are we meeting? What do we hope to accomplish? Where are the bathrooms?
8:45 a.m.	<b>Visualizing Success Presentation</b> Steve Milloy	<b>What Changes Are Needed to Drain the Swamp?</b> A 30-minute presentation on what success would look like... changes to laws, processes, organization, and personnel.
9:15 a.m.	<b>Visualizing Success Discussion</b> Steve Milloy, Myron Ebell, and David Schnare, Tim Huelskamp	A 30 minute panel discussion starting with reactions to Milloy's presentation, by EPA transition leaders, a former member of Congress, and former EPA staff
9:45 a.m.	Break	
10:00 a.m.	<b>Science Presentation</b> David Legates	<b>What You Need to Know about Climate Science</b> A 30-minute presentation on the current state of climate science.
10:30 a.m.	<b>Science Discussion</b> Jay Lehr, David Legates, Roy Spencer, and Willie Soon	A 30 minute panel discussion starting with reactions to David Legates' presentation, by distinguished climate scientists, identifying key arguments, controversies, and resources
11:00 a.m.	<b>Law Presentation</b> Harry MacDougald	<b>Challenging the Endangerment Finding in Court</b> A 30 minute presentation by coauthor of a petition to EPA to rescind the Endangerment Finding
11:30 a.m.	<b>Law Discussion:</b> David Schnare, Harry MacDougald, Sam Kazman, and Ronald Rychlak	A 30 minute panel discussion starting with reactions to Harry MacDougald discussing opportunities and challenges to changing public policy through the courts.
Noon	Lunch	
12:15 p.m.	<b>Speaker Training</b> Veronica Harrison	<b>How to Impress an Audience, a Reporter, and Even Your Spouse</b> Tips for effective public speaking – body language, appearance, and controlling the stage
1:15 p.m.	<b>Communication Presentation</b> Jim Lakely	<b>Winning Talking Points, Terminology, and Positioning</b> A 30 minute presentation by Heartland's director of communication

1:45 p.m.	<b>Communication Discussion</b> John Droz, Jim Lakely, Will Happer, and John Coleman	A 30 minute panel discussion starting with reactions to Jim Lakely describing personal experiences and market research conducted by CO2 Coalition, CEI, and others
2:15 p.m.	<b>Public Health Presentation</b> Richard Belzer	<b>Risk Analysis and Regulation</b> A 30 minute presentation by a former staff economist at the Office of Information and Regulatory Affairs.
2:45 p.m.	<b>Public Health Discussion</b> John Dunn, Stanley Young, Richard Belzer, Steve Milloy	A 30 minute discussion of Belzer covering how EPA abuses science by misapplying epidemiology, assuming no threshold, lack of transparency, etc.
3:15 p.m.	Break	
3:30 p.m.	<b>Economics Presentation</b> Kevin Dayaratna	<b>Demolishing the Social Cost of Carbon Argument</b> A 30 minute presentation by a Ph.D. statistician for The Heritage Foundation on why the real social cost is negative.
4:00 p.m.	<b>Economic Discussion</b> David Kreutzer, Roger Bezdek, Cal Beisner, and Marlo Lewis	A 30 minute panel discussion starting with reactions to Dayaratna discussing cost benefit analysis, cost of regulation, discount rates, and carbon taxes
4:30 p.m.	<b>Energy Policy Presentation</b> Roger Bezdek	<b>The Case for Fossil Fuels</b> A 30 minute presentation on the indispensable role played by fossil fuels in human prosperity, health, and even environmental protection and why alternative energies can't replace them.
5:00 p.m.	<b>Energy Policy Discussion</b> Robert Bradley, Roger Bezdek, Steve Goreham, Fred Palmer	A 30-minute panel discussion starting with reactions to Bezdek and covering future supply of energy, impact of renewables on cost and reliability, futility of a transition away from fossil fuels.
5:30 p.m.	<b>Wrap-up</b> Tim Huelskamp	Closing remarks and adjourn
5:45 p.m.	<b>Optional Dinner</b>	For those who have flights leaving in the morning and wish to stay, a buffet dinner will be served and the meeting space will remain open until about 8:00 p.m.

\* *Nominated for EPA Science Advisory Board*

### **Joseph Bast, The Heartland Institute**

Joseph Bast is CEO of The Heartland Institute, and was the founding executive director in 1984. According to a recent telephone survey of state elected officials, Heartland is among the nation's best-known and most highly regarded think tanks. Bast has written and edited 21 books, including *Eco-Sanity: A Common-Sense Guide to Environmentalism* (1994), *Climate Change Reconsidered* (2009), and *Why Scientists Disagree About Global Warming* (2015). Bast is publisher of three monthly newspapers sent to every national and state elected official: *School Reform News*, *Environment & Climate News*, and *Budget & Tax News*. Bast organized all 12 of Heartland's International Conferences on Climate Change (ICCC).

**\* Richard Belzer, Ph.D., former economist, OMB**

Since 2001, Dr. Richard Belzer has been an independent consultant in regulation, risk, economics and information quality. Previously he was a visiting professor of public policy at Washington University in St. Louis and staff economist in the Office of Information and Regulatory Affairs in the Office of Management and Budget. He received his Ph.D. in public policy from Harvard University (1989), Master's in Public Policy from the John F. Kennedy School of Government (1982), and MS and BS degrees in agricultural economics from the University of California at Davis (1979, 1980). His current original research areas include the analysis of variability in pulmonary function testing; the development of objective economic indicators to identify adverse human health effects; the improved use of human health risk assessments into benefit-cost analysis; the analysis of environmental justice ranking schemes; the analysis of patent law and examination practices; estimation of potential cost reductions state Medicaid programs from the substitution of electronic for tobacco cigarettes; and the economic value of subjective quality information in U.S. wine markets. Recent consulting projects have included benefit-cost analyses of California's proposed drinking water standards and the critique of predicted human health impacts and monetized risks attributable to air emissions from new facilities designed to achieve federal regulatory standards.

**Roger Bezdek, MISI**

Roger Bezdek is an internationally recognized energy analyst and president of MISI – a Washington, D.C.-based economic, energy, and environmental research firm. He has over 30 years of experience in the energy, utility, environmental, and regulatory areas in private industry, academia, and the federal government. Bezdek has previously served as Senior Advisor in the Office of the Secretary of the Treasury, as research director at the Department of Energy, and as U.S. energy and environmental delegate to the European Community and to NATO. He holds a Ph.D. in Economics from the University of Illinois at Urbana-Champaign, and is the author of six books and over 300 publications in scientific and technical journals. Bezdek presented on “Fossil Fuels & Human Prosperity” at Heartland's ICC-12 in March 2017.

**\* Kevin Dayaratna, Heritage Foundation**

Kevin D. Dayaratna is Senior Statistician and Research Programmer in The Heritage Foundation's Center for Data Analysis (CDA). An applied statistician, he has researched and published on the use of high-powered statistical models in public policy, medical outcomes, business, economics, and even professional sports. At CDA, Dayaratna instituted the Heritage Energy Model, derived from the Energy Information Administration's National Energy Modeling System, to quantify and help policymakers understand the long-term economic effects of energy policy proposals. He has also published extensive research on integrated assessment modeling regarding the social cost of carbon, methane, and nitrous oxide. In addition to energy modeling, has Dayaratna also works on statistical modeling regarding important climate, tax, labor, health care, welfare, and entitlement policy questions. Dayaratna presented on the “Social Cost of Carbon” at ICC-12 in March 2017.

**Veronica Harrison, The Heartland Institute**

Veronica Harrison is director of marketing at The Heartland Institute. She is responsible for creating and implementing efficient marketing plans for The Heartland Institute and its departments. Harrison composes detailed planning memos for each of the organization's major publications, events, and policy campaigns. Harrison then works with staff to implement those plans effectively as a way to increase the numbers of paid subscribers to the organization's publications, attendance at events, and tools to measure overall success at Heartland. Harrison joined the Heartland team in 2014. She received her B.A. in journalism from Columbia College Chicago in 2010. During her second year at Columbia, Harrison was a communications specialist at the Streeterville (Chicago) Chamber of Commerce.

**Tim Huelskamp, The Heartland Institute**

Tim Huelskamp, Ph.D., began as president of The Heartland Institute in July 2017. From 2011 to 2017, Dr. Huelskamp served three terms in Congress representing the 1st District in Kansas. He advocated on behalf of conservative, free-market solutions in a wide range of policy arenas and served on numerous committees, most notably the Veterans Affairs Committee and Budget Committee. He helped grow the House Freedom and Liberty Caucuses, chaired and expanded the Tea Party Caucus, fought the Waters of the U.S. Rule, worked on budgets in the Republican Study Committee, and co-founded Conversations with Conservatives, a monthly House conservative press availability. Prior to serving in Congress, Huelskamp was a fifth-generation family farmer in Kansas, where he farmed with his family for more than 30 years. He left Kansas only long enough to earn a BA summa cum laude from the College of Santa Fe and a Ph.D. in political science from American University in Washington, DC. Dr. Huelskamp and his wife Angela are proud parents of four children.

**Jim Lakely, The Heartland Institute**

Jim Lakely is the director of communications at The Heartland Institute, a spokesman for the organization, the editor-in-chief of Heartland's blog, Freedom Pub, and the executive producer of the Heartland Daily Podcast. Prior to joining Heartland in 2008, Lakely spent 16 years in daily-deadline journalism. A former White House correspondent for *The Washington Times*, he covered Capitol Hill and the re-election campaign of George W. Bush. Lakely has appeared on C-SPAN, the Fox News Channel, MSNBC, CNN, and many national and local television and radio news programs. He's been an editorial writer and columnist for the *Tribune-Review* in Pittsburgh, Pennsylvania; the *Free Lance-Star* in Fredericksburg, Virginia; and the *Press-Enterprise* in Riverside, California. Lakely often serves as "master of ceremonies" at The Heartland Institute's public events, and is one of Heartland's chief public communicators on environment and climate issues. He has twice (so far) given presentations on *Why Scientists Disagree About Global Warming* to public school classrooms in 2017.

**\* David Legates, University of Delaware**

David Legates, Ph.D. is professor of climatology in the Department of Geography at the

University of Delaware and an adjunct professor at the university's Physical Ocean Science and Engineering Program and in the Department of Applied Economics. At the 10th International Conference on Climate Change in 2015, he was presented with the Courage in Defense of Science Award. Legates has argued for the necessity of technological progress in precipitation measurement used for validating climate change scenarios and for validation of existing data used for that purpose. Legates has earned certified consulting meteorologist status from the American Meteorological Society and in 1999 was awarded the Boeing Autometric Award for submitting the best paper in image analysis and interpretation. He has published more than 125 articles in refereed journals, conference proceedings, and monograph series and has made more than 250 professional presentations.

**Harry MacDougald, Caldwell, Propst & DeLoach, LLP**

Harry MacDougald is co-counsel for the Southeastern Legal Foundation (SLF) in a significant challenge to the EPA's greenhouse gas endangerment finding and follow-on regulations. That effort culminated in the Supreme Court decision in *Southeastern Legal Foundation, et. al. v. Environmental Protection Agency*, sub nom *United Air Regulatory Group v. Environmental Protection Agency* (2014). MacDougald presented oral argument on science issues in that case when it was before D.C. Circuit Court of Appeals. He was the primary author of an amicus brief on climate science issues in *American Electric Power Co., Inc. v. Connecticut* (2011) on behalf of the SLF and several scientists. MacDougald has also filed amicus briefs on behalf of SLF in *Utah v. Evans* (constitutionality of statistical sampling in the 2000 apportionment census); *Johnson v. UGA*, (11th Cir. 2001; constitutionality of affirmative action in college admissions); and *Gratz v. Bollinger* (6th Circuit; constitutionality of affirmative action in law school admissions).

**Steve Milloy, author 'Scare Pollution'**

Steve Milloy is a recognized leader in the fight against junk science with more than 25 years of accomplishment and experience. Credited with popularizing the term "junk science," Milloy is the founder and publisher of JunkScience.com and, from 2000-2009, wrote the popular "Junk Science" column for FOXNews.com. He is an expert on energy, environmental and public health issues, a public affairs consultant, author, TV/radio commentator and public speaker. Milloy was trained in natural sciences, biostatistics, law and securities regulation. He has also been an attorney for the U.S. Securities and Exchange Commission and a broker-dealer; and a registered securities principal, investment fund manager, non-profit executive, print/web columnist on science and business issues, and coal company executive. Milloy's latest book is *Scare Pollution: Why and How to Fix the EPA* (2016). Milloy served on the Trump EPA transition team. He presented on "Draining the Government Climate Science Swamp" and "EPA's Human Experiments with Particulate Matter: Proof of Government Science Corruption" at ICC-12 in March 2017.

*NOTE: Also present and nominated for EPA's Science Advisory Board: Joe D'Aleo, Craig Idso, Stan Young.*





NIEL BRANDVOLD FOR NATURE

The country has focused its science efforts on areas that could improve daily life for its citizens, such as energy development. “The country was dependent on oil in Iraq, and then natural gas from Egypt,” says Khaled Toukan, chairman of the Jordan Atomic Energy Commission. “The problem with these sole sources is that we were subjected to political changes, like the US invasion of Iraq and the overthrow of the Egyptian government.” Now, he says, Jordan is looking to exploit its uranium resources to include nuclear power, and it is exploring the potential of solar and wind energy.

The Jordanian government is also looking for ways to cope with one of the lowest levels of water availability in the world—a problem that has intensified with the recent influx of an estimated 1.3 million Syrian refugees. Some help could come from a partnership that the Royal Scientific Society announced in February with the University of California, Berkeley, to build a reticular-chemistry foundry. Reticular chemistry involves making porous crystals.

It was pioneered by Jordanian chemist Omar Yaghi, who heads the Berkeley Global Science Institute and has developed materials that can harvest water from the atmosphere.

Still, Jordan faces a long climb to fulfil its scientific ambitions. The country spent just over 0.4% of its gross domestic product (GDP) on research and development in 2011, the latest year for which figures are available. That beats its wealthy neighbour Saudi Arabia (0.07% of GDP), but Jordan lags behind some nearby countries, such as Turkey. And although Jordan nearly doubled its yearly output of scientific publications between 2005 and 2014, from 641 to 1,093, the overall number remains small.

To help build research capacity, the government set up the Jordanian Scientific Research Support Fund in 2005. The fund was initially supported by a law that required all companies in Jordan to pay 1% of their profits into the fund. By 2012, when that statute was overturned, the fund had acquired US\$85 million. It is now kept afloat by Jordan’s universities, which

must spend 3% of their annual budgets on research or contributions to the fund. Between 2008 and 2016, the foundation gave a total of \$35 million to 325 projects, mainly in the medical, pharmaceutical and agricultural sciences.

Abeer Al Bawab, a chemist who in March became minister of higher education and director of the fund, is thinking deeply about how to monitor its success. “The oldest university in the country is only 55 years old, and the support fund has just been around for ten years,” she notes. Because Jordan is still building its culture of science, Al Bawab says that metrics such as the rate of scientific publications are not by themselves the best indicators of progress. She hopes to quantify the intersections between academic research, science policy and the private sector.

In the meantime, El Hassan hopes that the World Science Forum will help to raise the profile of science in the eyes of the Jordanian public. “A generation of analytical thinkers and risk takers,” she says, “is something I’d like to see.” ■

POLICY

# Fears rise over US climate report

*EPA officials are consulting global-warming sceptics as they weigh up a technical review.*

BY JEFF TOLLEFSON

A sweeping US government report on the state of climate-change science is nearing the finish line, but researchers who wrote it aren’t ready to relax just yet. Federal scientists have twice reviewed the roughly 600-page document—which examines everything from shifting weather patterns to rising sea levels—as have the US National Academies of Sciences, Engineering, and Medicine. Just one hurdle remains, but it may be the highest: final sign-off by top officials in President Donald Trump’s administration, many of whom are sceptical of climate science.

Although there have not yet been any signs of trouble, researchers are keeping a close eye on how the White House and federal agencies handle the science report—a technical prelude to the fourth National Climate Assessment, a legally mandated analysis of the causes and impacts of global warming that is due in 2018.

Many climate scientists are particularly uneasy about the potential for interference by the US Environmental Protection Agency (EPA), one of 13 agencies that must approve the science report before its expected release in November. EPA administrator Scott Pruitt, who rejects well-established climate science, has raised the possibility of organizing an adversarial ‘red team–blue team’ review of such research.



RALPH FRESO/GETTY

As temperatures soar, researchers worry that science could be “held hostage” by a sceptical White House.

And he has help from the Heartland Institute, a think tank in Chicago, Illinois, that promotes scepticism about climate change.

“We can’t allow science to be held hostage,” says Donald Wuebbles, a climate scientist at the University of Illinois at Urbana-Champaign and co-chair of the report. “I’m hopeful it won’t get to that, because it would look really

bad for the administration to fight this.”

It wouldn’t be the first time that a Republican president had sought to stymie the United States’ national climate-assessment process. The administration of George W. Bush came under fire for ignoring the first National Climate Assessment, which was released by then-President Bill Clinton in 2000. After

► the Bush administration subsequently missed the legal deadline in 2004 to complete a second assessment, environmentalists sued the government in federal court to compel the report's release—and won.

The message of the latest science report—that human-caused global warming poses urgent problems for the United States—isn't likely to sit well with the White House. The Trump administration has sought to repeal environmental regulations and cut climate research. Energy secretary Rick Perry has joined Pruitt in questioning climate science. And Pruitt's chief of staff, Ryan Jackson, once worked for Senator James Inhofe (Republican, Oklahoma), a prominent climate sceptic.

"This is going to be the first big test in the climate arena," says Tammy Dickinson, who led the energy and environment division at the White House Office of Science and Technology Policy (OSTP) under president Barack Obama. One major issue, she adds, is that Trump has yet to fill many positions at the OSTP—which has coordinated work on the last three government climate assessments—or high-level science posts at federal agencies that work on climate change.

At the EPA, rank-and-file staff say that they haven't been told who will sign off on the science

report, or how the OSTP will manage the final review process. Agency scientists told *Nature* that climate change has become taboo in their discussions with EPA leadership. The fact that agency leaders have consulted with climate sceptics has only added to the confusion.

One EPA official, who asked for anonymity because of career concerns, provided *Nature* with two lists circulating among Pruitt's team that seem to have been compiled by the Heartland Institute. One list, labelled "climate scientists", contains the names of more than 140 people, including many climate sceptics; the second names several dozen climate economists.

The Heartland Institute would not comment on the documents, but a spokesman confirmed that Heartland has provided the EPA with names of people for a climate science 'red team'. Many agency researchers assume that Pruitt will use the lists to assemble that team, but some fear that it could be used to identify candidates for empty slots on the EPA's Board of Scientific Counselors, which advises the agency's research arm. An EPA spokeswoman declined to comment on the lists or the science report.

**"It would look really bad for the administration to fight this."**

For the anonymous official, the question now is whether the adversarial approach embodied by the 'red team' idea will drive the Trump administration to delay the science report. "They are aware of the report," the official says. "We don't know what they are going to do." Then there is the broader national climate assessment, which will delve into questions that have profound implications for government policy, such as how coastal communities should respond to rising seas. That document is expected to go out to federal agencies this month.

Pruitt will have to be careful how he handles both documents, says Kyla Bennett, a former EPA ecologist who now works for the watchdog group Public Employees for Environmental Responsibility in North Easton, Massachusetts. The EPA could ignore the climate report's findings while implementing policies that affect the oil, gas and coal industries, which Trump has vowed to protect and promote. But if the administration pushes regulations that ignore mainstream climate science, Bennett says, it is likely to face lawsuits from environmental and science groups.

"The EPA is supposed to be using the best science out there," she says. "They can't just suddenly say the Earth is flat, CO<sub>2</sub> is not a pollutant and coal is the best thing for the world." ■

REPRODUCIBILITY

# P-value shake-up proposed

Big names in statistics recommend tightening threshold for significance in biomedical science.

BY DALMEET SINGH CHAWLA

Science is in the throes of a reproducibility crisis, and researchers, funders and publishers are increasingly worried that the scholarly literature is littered with unreliable results. Now, a group of 72 prominent researchers is targeting what they say is one cause of the problem: weak statistical standards of evidence for claiming new discoveries.

In many disciplines, the significance of findings is judged by *P* values. They are used to test (and dismiss) a 'null hypothesis' which

generally posits that the effect being tested for doesn't exist. The smaller the *P* value that is found for a set of results, the less likely it is that the results are purely due to chance. Results are deemed 'statistically significant' when this value is below 0.05.

But many scientists worry that this threshold has caused too many false positives to appear in the literature, a problem exacerbated by a practice called *P*hacking, in which researchers gather data without first creating a hypothesis to test, and then look for patterns in the results that can be reported as statistically significant.

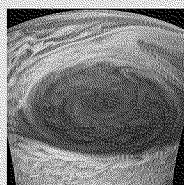
So, in a provocative manuscript posted on the PsyArXiv preprint server on 22 July, researchers argue that *P*-value thresholds should be lowered to 0.005 for the social and biomedical sciences (D. Benjamin *et al.* Preprint at PsyArXiv <http://osf.io/preprints/psyarxiv/mky9j>; 2017). The final paper is set to be published in *Nature Human Behaviour*.

"Researchers just don't realize how weak the evidence is when the *P* value is 0.05," says Daniel Benjamin, one of the paper's co-lead authors and an economist at the University of Southern California in Los Angeles. He thinks

NASA, JPL, CALTECH, SMRI, MISSI, JASON MAJOR



IMAGES OF THE MONTH



July's sharpest science shots—as selected by *Nature's* photo team [go.nature.com/2dlit0g](http://go.nature.com/2dlit0g)

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# Trump administration lining up climate change 'red team'

by [John Siciliano](#) | Jul 24, 2017, 12:02 AM

*The Heartland Institute has been a long proponent of a Red Team "to critically examine what has become alarmist dogma rather than a sober evaluation of climate science for many years."*

The Trump administration is in the beginning stages of forming an adversarial "red team" to play devil's advocate in a plan to debate the facts behind global warming and take on what skeptics call climate alarmism.

The White House and the Environmental Protection Agency are recruiting scientists by enlisting the help of the Heartland Institute, considered to be the lead think tank for challenging the majority of scientists on climate change.

The institute has its own red team, which is the antithesis to the United Nations' Intergovernmental Panel on Climate Change, which it calls, unabashedly, the Nongovernmental International Panel on Climate Change.

"The White House and the Environmental Protection Agency have reached out to the Heartland Institute to help identify scientists who could constitute a red team, and we've been happy to oblige," Jim Lakely, the group's communications director, told the *Washington Examiner*.

"This effort is long overdue," he said. "The climate scientists who have dominated the deliberations and the products of the IPCC have gone almost wholly without challenge. That is a violation of the scientific method and the public's trust."

The Heartland Institute has been a long proponent of a red team "to critically examine what has become alarmist dogma rather than a sober evaluation of climate science for many years," Lakely said. "In fact, Heartland has worked closely with a red team that has been examining the science for several years: the Nongovernmental International Panel on Climate Change, or NIPCC."

What the Trump administration may pull together in creating its red team might look a little like what Heartland has created.

EPA Administrator Scott Pruitt "believes that we will be able to recruit the best in the fields which study climate and will organize a specific process in which these individuals ... provide back-and-forth critique of specific new reports on climate science," a senior administration official told the news service Climatewire late last month.

"We are, in fact, very excited about this initiative. Climate science, like other fields of science, is constantly changing. A new, fresh, and transparent evaluation is something everyone should support doing," the official said.

The Heartland team continues to publish reports challenging IPCC and other climate scientists, which it began eight years ago. The group has produced four volumes of "Climate Change Reconsidered," with a fifth coming out later this year, Lakely said.

"Hundreds of scientists have reviewed and helped produce those volumes, which have been published by the Heartland Institute," Lakely said. The reports total more than 3,000 pages.

The irony behind the Trump administration taking up the approach is that it was suggested by a former Obama administration official, Steve Koonin, who suggested a red team-blue team approach to clear out the politics and address the science. Koonin teaches at New York University.

He suggested the idea in an April op-ed in the Wall Street Journal. The exercise would include a red team, representing climate skeptics, squaring off against a blue team, representing the majority of scientists who believe the Earth's temperature is warming because of increased greenhouse gas emissions caused by manmade activity.

The team approach was created by the military during the Cold War era to test assumptions about the Soviet Union's military capabilities. For climate change, it would offer an adversarial approach to challenge assumptions and form different conclusions when considering how much of warming is due to carbon dioxide emissions and how much is from natural changes.

"It's a great opportunity for this country to have a conversation about the climate and get the politics out of it and bring the scientists together," is how Energy Secretary Rick Perry floated it in June before a Senate Appropriations Committee hearing on the fiscal 2018 budget.

"As a matter of fact, the undersecretary of energy for President Obama, Steven Koonin, has said, who is a theoretical physicist and was over at the department and knows this issue rather well, and he says it's probably time for us to have a conversation with all the politics out of room."

Perry was the first administration official to suggest the idea in public, although he suggested it hypothetically, with no plan to implement the team.

But EPA Administrator Scott Pruitt is setting the plan in motion.

"It's my understanding that Scott Pruitt is trying to hire Koonin to be in charge of the whole thing," said Myron Ebell, Trump's former EPA transition chief, who is environment director at the libertarian Competitive Enterprise Institute.

Neither the EPA nor Koonin returned calls to confirm his being tapped for the post of red team leader.

But Ebell points out the logic in having him participate. "He's an honest broker, right?" Ebell said. "He served in the Obama administration but he thinks we haven't had a sufficient debate. He would have a lot of credibility, I think, running the whole process.

"I don't know what they have in mind in how to do it, and I certainly don't know what Koonin has in mind," Ebell said. "In general, we need to go beyond what the establishment says whenever they're confronted, which is, 'You can trust us.' I don't think we can trust them."

Ebell says he would rather "trust, then verify," using former President Ronald Reagan's old adage when dealing with the Soviet Union. "I'm not saying the scientists are Soviets. I just think that's a good approach to take, particularly when the policies being advocated are going to cost trillions of dollars over the next several decades."

A group that is often tapped to bring different groups together to work out difficult political issues is not sure about how the administration will shape the teams or what the goal of the process will be.

"It's still not entirely clear what the scope of the 'red team-blue team' exercise will be, but in our evaluation, human activity is having an impact on the climate," said Tracy Terry, director of the energy project at the Bipartisan Policy Center. "With climate change occurring, the exercise could be useful if it focuses on the range of potential impacts and best approaches to mitigation and adaptation."

A scientist with the environmental think tank World Resources Institute says it is clear that the approach is wrong.

"Indeed, it has been used by major companies in internal strategic exercises, but it is entirely inappropriate for science," Kelly Levin wrote in a recent blog post. "It has no place in determining the science of a changing climate."

Levin heads the group's program to track carbon emissions in the developing world.

"The overwhelming majority — 97 percent — of peer-reviewed papers in the literature support the consensus view that human activities have contributed to the majority of recent warming," with a "vanishing small proportion" of published research rejecting the scientific consensus, she said.

But "giving equal, 50-50 weight to both the red and blue teams in the exercise would mislead the public into thinking there is a debate when there isn't one," Levin said. "And the Trump administration is likely to stack the red team with fossil fuel industry interests, as it has done with its Cabinet positions."

*Inside EPA*

July 25, 2017

Guest Perspective

## **Schnare, Former Transition Official, On His Departure, EPA Climate Science Review**

July 25, 2017

*Editor's Note: David Schnare, the former EPA transition official who wrote this article, left the agency earlier this year over concerns about infighting among administration appointees and Administrator Scott Pruitt's alleged lack of engagement. In it, his first since departing the agency, he discusses his reasons for leaving and his views on EPA's upcoming climate science review. The views expressed here are his.*

It is a high honor to be asked to serve on a presidential transition team -- an even higher one to be asked to go back into an agency into a major role. The Presidential Personnel Office, with the full support of Transition Team Leader and Senior White House Advisor, Don Benton, asked me to act as, and then become permanently appointed as the Assistant Deputy Administrator, a position Administrator Pruitt described as the Chief Operating Officer for the Agency. A few days before the White House officially made that assignment, I resigned. As a 34 year-veteran of EPA, a PhD environmental scientist and attorney who retired from the Agency in 2011, President Trump's team asked me to go into the agency in a leadership role implementing the EPA transition plan. Based on discussions with the entire EPA transition team, I had drafted approximately 80% of the agency transition plan. Why resign and why explain why?

My commitment to the President and his agenda is ongoing, despite my resignation. Over 20 news organizations have asked me to spell out why I left, and previously I have not as I saw no value to President Trump in doing so. However, telling this brief tale deflates attention on my resignation and allows attention to go to an important issue that demands attention from within and outside the Agency -- specifically, how to address the highly controversial issue of climate and the human influence on climate.

In simple terms, Mr. Pruitt and I simply never meshed.

Every agency or departmental transition team confronted two challenges: rapid implementation of the President's agenda and team-building with the career managers. The EPA transition team faced extreme antagonism by some lower level employees within the Agency and open hostility from the initial Pruitt

appointments. My job was to form a working bridge between the Pruitt team and the career professionals while ensuring the President's transition plan moved forward. In the final call, I was unable to achieve this mission.

Bill Ruckelshaus, the Agency's first and fifth Administrator, recently discussed why senior government officials resign, something he did twice. He explained that it comes down to a question of fundamental principles. Where the appointee is being forced to compromise his core principles, he has no choice but to resign. In my case, Mr. Pruitt and I had basic irreconcilable differences in management approach and professional ethics.

Because, in the opening weeks of his tenure, Mr. Pruitt chose not to engage closely with the senior career managers, my function was to bring time- and policy-sensitive issues to his attention and brief him on those issues. Each time, I suggested he meet with the appropriate career managers so as to ensure he had detailed answers to any questions he might have. He rarely did so, relying instead on the extremely short briefs I provided at his morning staff meetings.

This problem came to a head at a meeting in which I gave him notice that a delegated EPA authority was going to be used by a career manager on a sensitive issue, an action required by law. I advised him on the Agency's options and he rejected them all. Mr. Pruitt then ordered a different course of action, one I firmly believe is not permitted under law. He left it to me or his chief of staff to direct the career staff to implement the action. In my view, this violated our oaths of office and placed the career staff in an untenable position -- one from which I could not extract them, whether I stayed or resigned. The next week I was ordered to no longer meet with Mr. Pruitt on policy issues, having already been directed to not participate in either personnel or budget matters. Thus, I could not do the job the President asked me to do. Under those conditions, there was but one choice and I made it.

#### Revisiting Climate Science

In my commitment to President Trump's agenda, I have identified a structural problem that does not seem to be understood by EPA appointees or White House policy staff. I came to Inside EPA to highlight this problem as it is the loudest megaphone into the Agency and within the environmental policy community. It needs to be raised now and strongly, or the President will lose the opportunity to carry out one of his key election promises: reexamination of climate science and how that science informs policy-making that has vast economic and political implications.

There are three problems involving climate science that many others within the Administration do not understand: (i) The law does not assign responsibility for assessing the significance of greenhouse gas emissions to EPA; (ii) the law does not permit the federal government to assume the science is settled; and, (iii) the Red team -- Blue team concept simply does not apply within the scientific community. I opt for the Red, White and Blue team approach, with a heavy dash of Karl Popper thrown in.

Who is responsible for assessing climate science?



The Subcommittee on Global Change Research (GCRC) of the Committee on Environment, Natural Resources, and Sustainability of the National Science and Technology Council was established to plan and coordinate the U.S. Global Change Research Program (USGCRP), as described in the Global Change Research Act of 1990 (P.L. 101-606). The USGCRP provides for development and coordination of a comprehensive and integrated research program, which assesses, predicts and responds to human-induced and natural processes of global change.<sup>1</sup> Among its eleven functions is the duty to conduct a periodic scientific assessment which addresses the following:

- (1) integrates, evaluates, and interprets the findings of the Program and discusses the scientific uncertainties associated with such findings;
- (2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
- (3) analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years.

The staff at the Office of Science and Technology Policy are currently engaged in writing the statutorily mandated 2017 “National Climate Assessment.” This is a legacy of the Obama administration, one being done as quickly and quietly as possible by the Obama holdovers ensconced at OSTP. The Assessment draws on the science as discussed in another statutorily mandated report, the “Research Plan.” Both the Assessment (currently in draft) and the Research Plan parrot an alarmist view of the “settled” science. The Research Plan was published days before President Trump took office. Both the Research Plan and the Assessment need to go back to ground zero and be redone, and a properly appointed OSTP leadership and staff have all the authority and tools needed to reexamine the science.

How do we know a redux is needed? The National Academy of Science (well known to lean toward climate alarmism), said so.<sup>2</sup> Among many recommendations, the Academy stated a need for “expanding the discussion of specific topic areas, to better reflect the full breadth of literature and understanding of the subject” and “Wherever possible, figures depicting observed trends should indicate the statistical significance of those trends, or confidence intervals.” A close reading of the NAS review indicates the GCRC effort reeks of failure to employ the basics of science as encapsulated in the Information Quality Act (IQA) guidelines that apply to federal agencies, including the White House offices.

EPA provides but one of fourteen members to GCRC and its representative is not currently the chairman of the committee nor does it provide the executive director. OSTP and its GCRC have the authority and resources to conduct a reexamination of the science. EPA can play, but it isn’t in charge and doesn’t have the authority under the Global Change Research Act of 1990 to unilaterally undertake this effort.

Red Team -- Blue Team Silliness.

The latest riff on climate has been the suggestion of using a Red team -- Blue team approach. As eminent a scientist as Steven Koonin, a theoretical physicist who served as Obama’s undersecretary for

science at the Energy Department, has endorsed the idea. He has been accused of setting up a strawman argument regarding whether climate science is “settled.”<sup>3</sup> Mr. Pruitt has indicated he wants Dr. Koonin to be the lead in a Red Team – Blue Team effort. I can understand that an attorney like Mr. Pruitt might be comfortable with an adversarial process; or that legislators (read politicians) would think this an idea worthy of use. It’s an idea that grows out of ignorance of the scientific process or science itself.

Red teaming is a practice coming out of the national security community. According to them, it is the practice of viewing a problem from an adversary or competitor’s perspective. Those of us who have served in the military understand the value of having one’s strategic and tactical approaches challenged by opposing forces. That, however, is not how science works. Science is supposed to be done by individuals “disinterested” in the outcome of their observations. It is not supposed to be a political blood sport.

Science consists of making observations and attempting to “falsify” hypotheses based on observation. Where there are conflicting hypotheses, scientists test each. Often, each is falsified and each hypothesis has to be tossed. Lately, “science” has foundered on the rocks of academic imperialism. There is less of a division between “alarmists” and “skeptics” than between those whose future (read funding) is risked by climate skepticism (the alarmists) and those who need not worry about such support (the skeptics). The risk of loss of funding, and consequently loss of academic promotion and standing, is real and imposing.

Non-transparency in academic science has exacerbated this problem. When the public, and especially the technologically and scientifically literate public, can’t look deeply into the practices of scientists, there is no pressure to maintain the ethics of science.

What is needed is the convening of a scientific reevaluation of climate science, done in the most public fashion. As I discussed with senior EPA leadership before I left, webcasting a detailed discussion of critical issues, with the opportunity for viewers to pose appropriate technical questions during the discussion, would allow for the transparency and the depth needed to ensure a full rendering of our understanding of greenhouse gases on climate. It would also educate the 90 percent of U.S. citizens who admit they don’t know enough about climate change to have a view on the subject.

One additional element would be needed. All points of view and kinds of expertise need to be at the table. In the climate community, this has been nearly impossible to achieve, the animosity and professional fear within the community being what it is. A simple solution is to require any federal grantee or grant applicant to agree to participate in these sessions. You want to feed at the federal trough, you have to be willing to engage with the federal government processes, including these kinds of scientific enterprises.

What about Mr. Pruitt’s idea of televising a climate debate? It’s an extension of failure to understand how science works. Structured debates are too limiting. If televised, they are too short. If a continuing loop of “Red Team argument,” then “Blue Team argument,” it is inefficient. The depth needed to be examined cannot be reached in a televised debate. It will in a scientific conclave specifically intended to reach such depths and provide for discussion rather than antagonistic debate.

Finally, the fundamental questions that require reconsideration in light of evolving scientific observations include the following and should be the starting point for a full redraft of the Climate Science Special Report:

What empirical data (a) characterize climate conditions, changes in those conditions and normal variability in those conditions; and, (b) meet IQA criteria for quality, objectivity, utility and integrity?

What do IQA-qualified data tell us about how the climate has changed?

Using only IQA-qualified empirical data, (a) how sensitive is climate to GHGs, (b) how much of that sensitivity is attributable to human activity, and (c) what is the utility of these data as the basis for policy-making?

What methods for prediction of changes in climate conditions meet criteria necessary to allow policy reliance on such forecasting, criteria such as those mandated in financial forecasting?

What IQA-qualified empirical data characterize the beneficial and harmful consequences to human health and welfare of qualified climate change forecasts?

If EPA has a role to play, it is as a member of the GCRC. On climate issues, Mr. Pruitt will best serve this nation in following the law, implementing the climate statute and relying on competent scientists to follow fundamental scientific principles. Recognizing the challenges of a very large government with many departments and agencies, now is the time for leadership from the top. The President needs to appoint a head of OSTP and he or she needs to reorganize and recommit to a proper examination of climate science. -- David Schnare

#### **Endnotes**

1 See, [https://www.whitehouse.gov/sites/whitehouse.gov/files/ostp/SGCR\\_Charter.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/ostp/SGCR_Charter.pdf).

2 See, "Review of the Draft Climate Science Special Report" at <http://dels.nas.edu/Report/Review-Draft-Climate-Science/24712>.

3 <http://time.com/3445231/climate-denier-settled-science/>.

# A ‘Red Team’ Exercise Would Strengthen Climate Science

**Put the ‘consensus’ to a test, and improve public understanding, through an open, adversarial process.**

By Steven Koonin  
April 20, 2017 6:49 p.m. ET

Tomorrow’s March for Science will draw many thousands in support of evidence-based policy making and against the politicization of science. A concrete step toward those worthy goals would be to convene a “Red Team/Blue Team” process for climate science, one of the most important and contentious issues of our age.

The national-security community pioneered the “Red Team” methodology to test assumptions and analyses, identify risks, and reduce—or at least understand—uncertainties. The process is now considered a best practice in high-consequence situations such as intelligence assessments, spacecraft design and major industrial operations. It is very different and more rigorous than traditional peer review, which is usually confidential and always adjudicated, rather than public and moderated.

The public is largely unaware of the intense debates within climate science. At a recent national laboratory meeting, I observed more than 100 active government and university researchers challenge one another as they strove to separate human impacts from the climate’s natural variability. At issue were not nuances but fundamental aspects of our understanding, such as the apparent—and unexpected—slowing of global sea-level rise over the past two decades.

Summaries of scientific assessments meant to inform decision makers, such as the United Nations’ Summary for Policymakers, largely fail to capture this vibrant and developing science. Consensus statements necessarily conceal judgment calls and debates and so feed the “settled,” “hoax” and “don’t know” memes that plague the political dialogue around climate change. We scientists must better portray not only our certainties but also our uncertainties, and even things we may never know. Not doing so is an advisory malpractice that usurps society’s right to make choices fully informed by risk, economics and values. Moving from oracular consensus statements to an open adversarial process would shine much-needed light on the scientific debates.

Given the importance of climate projections to policy, it is remarkable that they have not been subject to a Red Team exercise. Here’s how it might work: The focus would be a published scientific report meant to inform policy such as the U.N.’s Summary for Policymakers or the U.S. Government’s National Climate Assessment. A Red Team of scientists would write a critique of that document and a Blue Team would rebut that critique. Further exchanges of documents would ensue to the point of diminishing returns. A commission would coordinate and

moderate the process and then hold hearings to highlight points of agreement and disagreement, as well as steps that might resolve the latter. The process would unfold in full public view: the initial report, the exchanged documents and the hearings.

A Red/Blue exercise would have many benefits. It would produce a traceable public record that would allow the public and decision makers a better understanding of certainties and uncertainties. It would more firmly establish points of agreement and identify urgent research needs. Most important, it would put science front and center in policy discussions, while publicly demonstrating scientific reasoning and argument. The inherent tension of a professional adversarial process would enhance public interest, offering many opportunities to show laymen how science actually works. (In 2014 I conducted a workshop along these lines for the American Physical Society.)

Congress or the executive branch should convene a climate science Red/Blue exercise as a step toward resolving, or at least illuminating, differing perceptions of climate science. While the Red and Blue Teams should be knowledgeable and avowedly opinionated scientists, the commission should have a balanced membership of prominent individuals with technical credentials, led by co-chairmen who are forceful, knowledgeable and independent of the climate-science community. The Rogers Commission for the Challenger disaster in 1986, the Energy Department's Huizenga/Ramsey Review of Cold Fusion in 1989, and the National Bioethics Advisory Commission of the late 1990s are models for the kind of fact-based rigor and transparency needed.

The outcome of a Red/Blue exercise for climate science is not preordained, which makes such a process all the more valuable. It could reveal the current consensus as weaker than claimed. Alternatively, the consensus could emerge strengthened if Red Team criticisms were countered effectively. But whatever the outcome, we scientists would have better fulfilled our responsibilities to society, and climate policy discussions would be better informed. For those reasons, all who march to advocate policy making based upon transparent apolitical science should support a climate science Red Team exercise.

*Mr. Koonin, a theoretical physicist, is director of the Center for Urban Science and Progress at New York University. He served as undersecretary of energy for science during President Obama's first term.*

# Climate Science Is Not Settled

**We are very far from the knowledge needed to make good climate policy, writes leading scientist Steven E. Koonin**

**By Steven E. Koonin**

Sept. 19, 2014 12:19 p.m. ET

The idea that "Climate science is settled" runs through today's popular and policy discussions. Unfortunately, that claim is misguided. It has not only distorted our public and policy debates on issues related to energy, greenhouse-gas emissions and the environment. But it also has inhibited the scientific and policy discussions that we need to have about our climate future.

My training as a computational physicist—together with a 40-year career of scientific research, advising and management in academia, government and the private sector—has afforded me an extended, up-close perspective on climate science. Detailed technical discussions during the past year with leading climate scientists have given me an even better sense of what we know, and don't know, about climate. I have come to appreciate the daunting scientific challenge of answering the questions that policy makers and the public are asking.

The crucial scientific question for policy isn't whether the climate is changing. That is a settled matter: The climate has always changed and always will. Geological and historical records show the occurrence of major climate shifts, sometimes over only a few decades. We know, for instance, that during the 20th century the Earth's global average surface temperature rose 1.4 degrees Fahrenheit.

Nor is the crucial question whether humans are influencing the climate. That is no hoax: There is little doubt in the scientific community that continually growing amounts of greenhouse gases in the atmosphere, due largely to carbon-dioxide emissions from the conventional use of fossil fuels, are influencing the climate. There is also little doubt that the carbon dioxide will persist in the atmosphere for several centuries. The impact today of human activity appears to be comparable to the intrinsic, natural variability of the climate system itself.

Rather, the crucial, unsettled scientific question for policy is, "How will the climate change over the next century under both natural and human influences?" Answers to that question at the global and regional levels, as well as to equally complex questions of how ecosystems and human activities will be affected, should inform our choices about energy and infrastructure.

But—here's the catch—those questions are the hardest ones to answer. They challenge, in a fundamental way, what science can tell us about future climates.

Even though human influences could have serious consequences for the climate, they are physically small in relation to the climate system as a whole. For example, human additions to carbon dioxide in the atmosphere by the middle of the 21st century are expected to directly shift the atmosphere's natural greenhouse effect by only 1% to 2%. Since the climate system is highly variable on its own, that smallness sets a very high bar for confidently projecting the consequences of human influences.

A second challenge to "knowing" future climate is today's poor understanding of the oceans. The oceans, which change over decades and centuries, hold most of the climate's heat and strongly influence the atmosphere. Unfortunately, precise, comprehensive observations of the oceans are available only for the past few decades; the reliable record is still far too short to adequately understand how the oceans will change and how that will affect climate.

A third fundamental challenge arises from feedbacks that can dramatically amplify or mute the climate's response to human and natural influences. One important feedback, which is thought to approximately double the direct heating effect of carbon dioxide, involves water vapor, clouds and temperature.

But feedbacks are uncertain. They depend on the details of processes such as evaporation and the flow of radiation through clouds. They cannot be determined confidently from the basic laws of physics and chemistry, so they must be verified by precise, detailed observations that are, in many cases, not yet available.

Beyond these observational challenges are those posed by the complex computer models used to project future climate. These massive programs attempt to describe the dynamics and interactions of the various components of the Earth system—the atmosphere, the oceans, the land, the ice and the biosphere of living things. While some parts of the models rely on well-tested physical laws, other parts involve technically informed estimation. Computer modeling of complex systems is as much an art as a science.

For instance, global climate models describe the Earth on a grid that is currently limited by computer capabilities to a resolution of no finer than 60 miles. (The distance from New York City to Washington, D.C., is thus covered by only four grid cells.) But processes such as cloud formation, turbulence and rain all happen on much smaller scales. These critical processes then appear in the model only through adjustable assumptions that specify, for example, how the average cloud cover depends on a grid box's average temperature and humidity. In a given model, dozens of such assumptions must be adjusted ("tuned," in the jargon of modelers) to reproduce both current observations and imperfectly known historical records.

We often hear that there is a "scientific consensus" about climate change. But as far as the computer models go, there isn't a useful consensus at the level of detail relevant to assessing human influences. Since 1990, the United Nations Intergovernmental Panel on Climate Change, or IPCC, has periodically surveyed the state of climate science. Each successive report from that endeavor, with contributions from thousands of scientists around the world, has come to be seen as the definitive assessment of climate science at the time of its issue.

There is little doubt in the scientific community that continually growing amounts of greenhouse gases in the atmosphere, due largely to carbon-dioxide emissions from the conventional use of fossil fuels, are influencing the climate. Pictured, an estuary in Patagonia. Gallery Stock

For the latest IPCC report (September 2013), its Working Group I, which focuses on physical science, uses an ensemble of some 55 different models. Although most of these models are tuned to reproduce the gross features of the Earth's climate, the marked differences in their details and projections reflect all of the limitations that I have described. For example:

- The models differ in their descriptions of the past century's global average surface temperature by more than three times the entire warming recorded during that time. Such mismatches are also present in many other basic climate factors, including rainfall, which is fundamental to the atmosphere's energy balance. As a result, the models give widely varying descriptions of the climate's inner workings. Since they disagree so markedly, no more than one of them can be right.
- Although the Earth's average surface temperature rose sharply by 0.9 degree Fahrenheit during the last quarter of the 20th century, it has increased much more slowly for the past 16 years, even as the human contribution to atmospheric carbon dioxide has risen by some 25%. This surprising fact demonstrates directly that natural influences and variability are powerful enough to counteract the present warming influence exerted by human activity.

Yet the models famously fail to capture this slowing in the temperature rise. Several dozen different explanations for this failure have been offered, with ocean variability most likely playing a major role. But the whole episode continues to highlight the limits of our modeling.

- The models roughly describe the shrinking extent of Arctic sea ice observed over the past two decades, but they fail to describe the comparable growth of Antarctic sea ice, which is now at a record high.
- The models predict that the lower atmosphere in the tropics will absorb much of the heat of the warming atmosphere. But that "hot spot" has not been confidently observed, casting doubt on our understanding of the crucial feedback of water vapor on temperature.
- Even though the human influence on climate was much smaller in the past, the models do not account for the fact that the rate of global sea-level rise 70 years ago was as large as what we observe today—about one foot per century.
- A crucial measure of our knowledge of feedbacks is climate sensitivity—that is, the warming induced by a hypothetical doubling of carbon-dioxide concentration. Today's best estimate of the sensitivity (between 2.7 degrees Fahrenheit and 8.1 degrees Fahrenheit) is no different, and no more certain, than it was 30 years ago. And this is despite an heroic research effort costing billions of dollars.

These and many other open questions are in fact described in the IPCC research reports, although a detailed and knowledgeable reading is sometimes required to discern them. They are not



"minor" issues to be "cleaned up" by further research. Rather, they are deficiencies that erode confidence in the computer projections. Work to resolve these shortcomings in climate models should be among the top priorities for climate research.

Yet a public official reading only the IPCC's "Summary for Policy Makers" would gain little sense of the extent or implications of these deficiencies. These are fundamental challenges to our understanding of human impacts on the climate, and they should not be dismissed with the mantra that "climate science is settled."

While the past two decades have seen progress in climate science, the field is not yet mature enough to usefully answer the difficult and important questions being asked of it. This decidedly unsettled state highlights what should be obvious: Understanding climate, at the level of detail relevant to human influences, is a very, very difficult problem.

We can and should take steps to make climate projections more useful over time. An international commitment to a sustained global climate observation system would generate an ever-lengthening record of more precise observations. And increasingly powerful computers can allow a better understanding of the uncertainties in our models, finer model grids and more sophisticated descriptions of the processes that occur within them. The science is urgent, since we could be caught flat-footed if our understanding does not improve more rapidly than the climate itself changes.

A transparent rigor would also be a welcome development, especially given the momentous political and policy decisions at stake. That could be supported by regular, independent, "red team" reviews to stress-test and challenge the projections by focusing on their deficiencies and uncertainties; that would certainly be the best practice of the scientific method. But because the natural climate changes over decades, it will take many years to get the data needed to confidently isolate and quantify the effects of human influences.

Policy makers and the public may wish for the comfort of certainty in their climate science. But I fear that rigidly promulgating the idea that climate science is "settled" (or is a "hoax") demeans and chills the scientific enterprise, retarding its progress in these important matters. Uncertainty is a prime mover and motivator of science and must be faced head-on. It should not be confined to hushed sidebar conversations at academic conferences.

Society's choices in the years ahead will necessarily be based on uncertain knowledge of future climates. That uncertainty need not be an excuse for inaction. There is well-justified prudence in accelerating the development of low-emissions technologies and in cost-effective energy-efficiency measures.

But climate strategies beyond such "no regrets" efforts carry costs, risks and questions of effectiveness, so nonscientific factors inevitably enter the decision. These include our tolerance for risk and the priorities that we assign to economic development, poverty reduction, environmental quality, and intergenerational and geographical equity.

Individuals and countries can legitimately disagree about these matters, so the discussion should not be about "believing" or "denying" the science. Despite the statements of numerous scientific societies, the scientific community cannot claim any special expertise in addressing issues related to humanity's deepest goals and values. The political and diplomatic spheres are best suited to debating and resolving such questions, and misrepresenting the current state of climate science does nothing to advance that effort.

Any serious discussion of the changing climate must begin by acknowledging not only the scientific certainties but also the uncertainties, especially in projecting the future. Recognizing those limits, rather than ignoring them, will lead to a more sober and ultimately more productive discussion of climate change and climate policies. To do otherwise is a great disservice to climate science itself.

*Dr. Koonin was undersecretary for science in the Energy Department during President Barack Obama's first term and is currently director of the Center for Urban Science and Progress at New York University. His previous positions include professor of theoretical physics and provost at Caltech, as well as chief scientist of BP, where his work focused on renewable and low-carbon energy technologies.*

# The Global Warming Crisis Is Over

Two major multi-volume reports on global warming were released in 2013 and so far in 2014, one by the United Nations' Intergovernmental Panel on Climate Change (IPCC) and one by the Nongovernmental International Panel on Climate Change (NIPCC).

NIPCC is an international network of some 50 independent scientists from 15 countries, many of them distinguished and with no financial stake in the debate. Their new report consists of two volumes, each approximately 1,000 pages long, together citing nearly 6,000 peer-reviewed studies.

*Here is what the scientists found:*

- # There is no scientific consensus on the human role in climate change.
- # Future warming due to human greenhouse gases will likely be much less than IPCC forecasts.
- # Carbon dioxide has not caused weather to become more extreme, polar ice and sea ice to melt, or sea level rise to accelerate. These were all *false alarms*.
- # The likely *benefits* of man-made global warming exceed the likely *costs*.

*Here is what this means for public policy:*

- # Global warming is not a crisis. The threat was exaggerated.
- # There is no need to reduce carbon dioxide emissions and no point in attempting to do so.
- # It's time to repeal unnecessary and expensive policies.
- # Future policies should aim at fostering economic growth to adapt to natural climate change.

*What about those who still say global warming is a crisis?*

- # The UN's new report walks back nearly a dozen earlier claims, contains more than a dozen errors, and tries to cover up new discoveries that contradict its earlier claims.
- # The Environmental Protection Agency (EPA) relies heavily on the UN's reports for its finding that carbon dioxide is a pollutant. That finding is now falsified.
- # Environmental groups refuse to admit they were wrong. It was never about the science for them.

For more information, visit [www.climatechangereconsidered.org](http://www.climatechangereconsidered.org) or [www.nipccreport.org](http://www.nipccreport.org). The Nongovernmental International Panel on Climate Change (NIPCC) is a project of the Center for the Study of Carbon Dioxide and Global Change, the Science and Environmental Policy Project (SEPP), and The Heartland Institute.

### 3. Climate Science

#### **The Heartland Institute: Ten Things You Need to Know About Global Warming**

1. Global warming stopped about 17 years ago. All scientists agree there has been no significant increase in atmospheric temperature since 1996.
2. Taxes on energy (carbon taxes) and regulations on energy producers and users (including cap and trade) are all pain and no gain. They are destroying jobs, preventing an economic recovery, and yet have virtually no effect on the climate.
3. Carbon dioxide (CO<sub>2</sub>), the greenhouse gas that environmentalists say is most dangerous, actually plays a tiny, almost undetectable, role in climate change. Even large future increases would have a very small and diminishing effect.
4. CO<sub>2</sub> is a natural and essential part of Earth's atmosphere. It is food for plants and marine life. Most of it comes from natural sources and is absorbed by natural sinks. This Carbon Cycle is as old as the Earth itself.
5. CO<sub>2</sub> does not drive the weather and climate we experience and measure. The most important factors affecting local and regional weather and climate are changes in land-use, volcanic eruptions, changes in the Sun, and ocean currents.
6. We lack reliable data and the theoretical understanding of climate processes for computer models to accurately simulate the real climate. Their forecasts of temperatures and other climate conditions have repeatedly been shown to be wrong.
7. Computer climate models are not a valid or useful tool for setting environment and energy policy. They are not science, they are guesses. They do not make predictions, they offer "simulations" and "scenarios."
8. Natural, large and abrupt climate changes have occurred many times over geological history. They were not triggered by CO<sub>2</sub>. Nothing in the twentieth century and early twenty-first century is outside the range of natural variability.
9. Real measured data on environmental and climatic variations - in Arctic or Antarctic sea ice, polar bear populations, hurricane frequency and intensity, forest fires, and many other weather phenomena – do not support the doom-saying and alarms promoted by the United Nations, former Vice President Gore, and activist-scientists.
10. The effort to "stop global warming" is not based on science. It is about politics and ideology, winning elections and making money off the backs of taxpayers. It is denying life-improving and -saving technologies to poor people all around the world. It is killing jobs and reducing our freedoms here at home.

**Comment by:**

**Patrick J. Michaels  
Center for the Study of Science  
Cato Institute  
Washington DC**

**on the**

**Scope of Considerations for the Notice of Intent To Prepare an Environmental Impact Statement for Model year 2022-2025 Corporate Average Fuel Economy Standards**

Submitted September

**Docket ID:** NHTSA-2017-0069

**Agency:** National Highway Traffic Safety Administration

**Parent Agency:** Department of Transportation

**Due Date:** September 25, 2017

**Comment:**

The National Highway Traffic Safety Administration (NHTSA) has asked for public comments on “determining the scope of considerations to be addressed in the EIS [environmental impact statement] and for identifying any significant environmental matters related to the proposed action”.

On March 22, 2017, EPA Administrator Scott Pruitt and Secretary of Transportation Elaine Chao announced that they would reconsider EPA’s Mid-Term Evaluation for 2022-2025 greenhouse gas emissions standards in order to allow additional consultation with NHTSA.

Accordingly, Docket NHTSA-2017-0069 states:

..NHTSA is obligated to conduct a *de novo* rulemaking, with fresh inputs and a fresh consideration and balancing of all relevant factors, to establish final CAFÉ standards...

And later that

Similar to past EIS practice NHTSA plans to analyze environmental impacts related to fuel and energy use, emissions and their effects on climate change and the environment

and that the

scoping process initiated by this notice seeks public comment on the range of alternatives under consideration, on the impacts to be considered, and on the most important matters for in-depth analysis in the EIS.

There is a paradigm-shift occurring in global warming that is highly relevant to the scope of the NHTSA EIS. It began with the revelation of remarkable and increasing discrepancies between the climate models (often referred to as CMIP5 models) in the most recent report of the U.N.'s Intergovernmental Panel on Climate Change (IPCC) and observations in the bulk atmosphere over vast swaths of the planet. Figure 1 is a stark representation of this in University of Alabama-Huntsville's John Christy's 2017 [congressional testimony](#). A table of the related data subsequently appeared in the peer-reviewed literature in the [Bulletin of the American Meteorological Society](#).

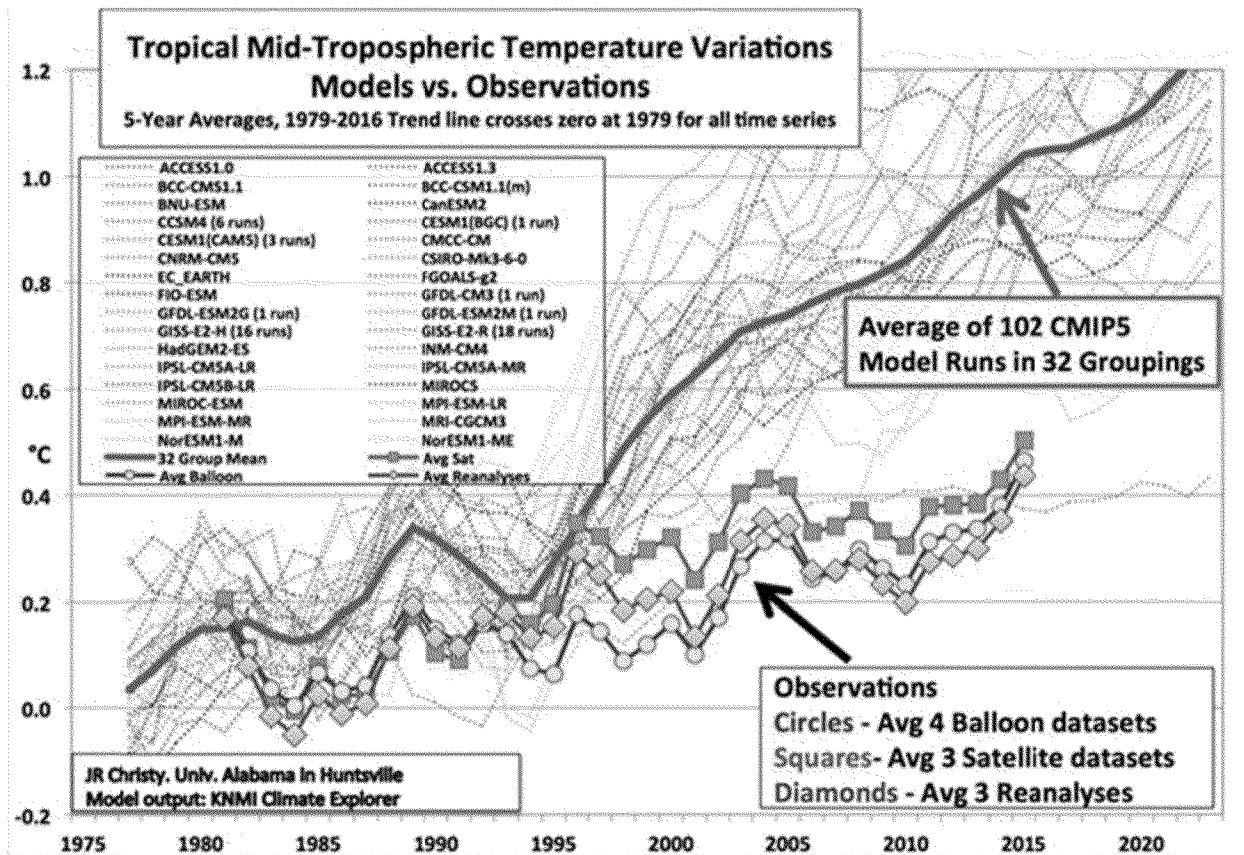


Figure 1. Average of the IPCC computer model projections for the tropical mid-troposphere versus three standard sets of observations. The disparity is large and growing. Source: March 29, 2017 Testimony of John Christy, hyperlinked above. This region covers over 37% of the planet.

Another Christy illustration (Figure 2) from the same testimony is truly discouraging with regard to the climate models:

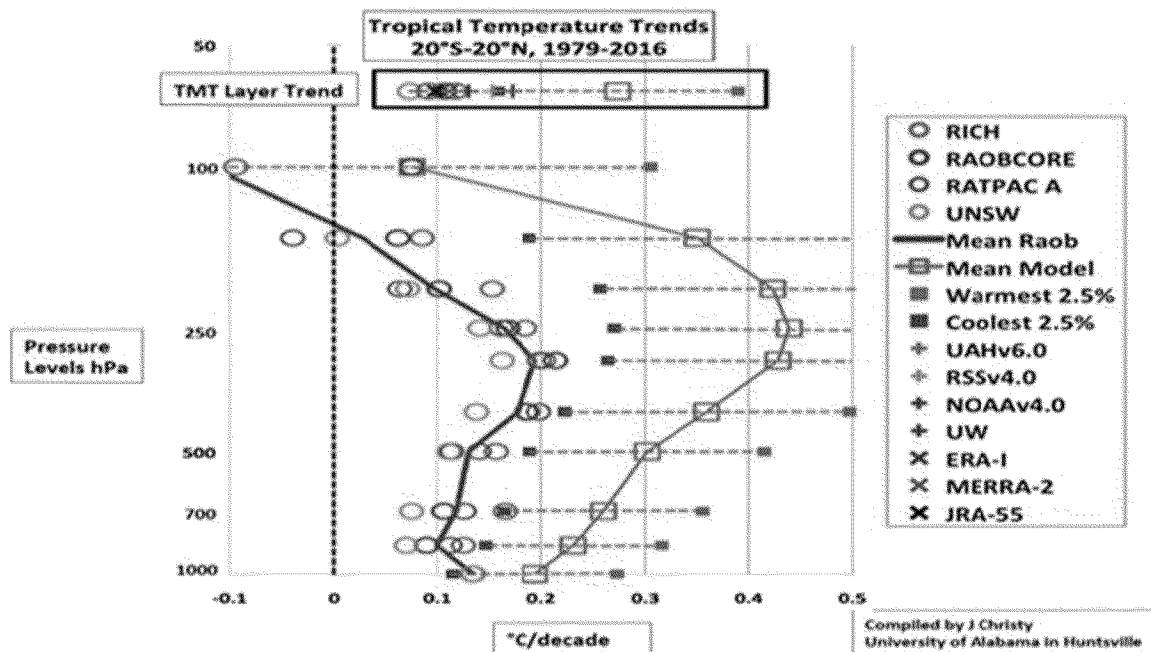


Figure 2. Observed (green) and predicted (red) rates of temperature change with height in the tropics. Figure S2 10 in the Bulletin of the American Meteorological Society report, *State of the Climate in 2016*.

The implications of this error are enormous. It means that vertical motion in the tropical troposphere is substantially and systematically underestimated in most of the climate models, which means in reality there is a stronger Hadley circulation, a stronger subtropical subsidence, and stronger trade winds. It is important to understand that the weather regime implications of these errors, which are large, have not been quantified. In general, it is the vertical stratification of temperature that determines tropical precipitation and cloudiness. The models must be systematically predicting a less cloudy and precipitating atmosphere than is being observed, an enormously important error, and vital to calculating any water vapor feedback, which is the major reason that these models can produce more than the approximately 1°C of warming resulting directly from doubling atmospheric carbon dioxide.

A vast amount of atmospheric water vapor originates in the tropics and is transported vertically through the low-level tropical inversion, ultimately entering the planet's general circulation. The amount of moisture flux is determined by the vertical temperature contrast. This single but widespread error therefore results in unreliable precipitation forecasts worldwide, which in turn effects how the sun's radiation is partitioned in the earth-atmosphere system. The error means that the CMIP5 general circulation models, which are the ones used

by the IPCC, cannot be a basis for the scope of the NHTSA environmental impact statement. The mean sensitivity of these models<sup>1</sup>, which is 3.2°C, therefore should not be considered as the mean of the scope of the EIS. The growing discrepancy between predicted and observed bulk temperatures is reason enough to eliminate these models.

There is an alternative that is much more logically defensible. Given bad forecasts, why not use what is being observed? Beginning in 2011, a substantial number sensitivity estimates have been calculated using real-world observations. A partial list is in Figure 3 and in the References to the Comment.

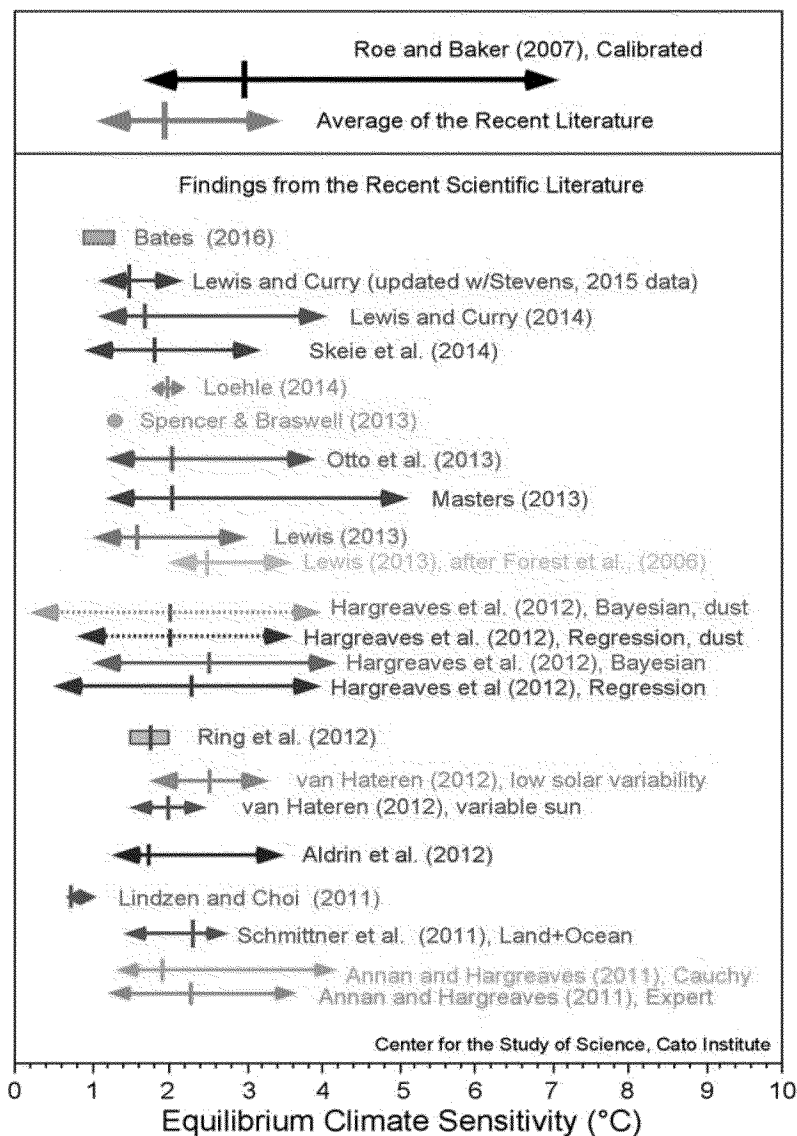


Figure 3. Observation based calculations of climate sensitivity beginning in 2011 produce about 60% of the warming of the CMIP5 models. From Michaels and Knappenberger, 2016, with citations also at the end of this Comment.

<sup>1</sup> "sensitivity" is the net surface warming resulting from a doubling of atmospheric carbon dioxide.



These generally yield a lower sensitivity, with a mean value around 2.0°C and with a 90 percent confidence interval from 1.5 to 3.5°C. This is given on the top of Figure 3, along with the highly inflated distribution used by the Obama Administrations, given as Roe and Baker, 2007. This is based upon models displaying the errors show in Figures 1 and 2, and should clearly not be included in the scope of the NHTSA EIS.

It is important to note that the baseline “business as usual” (BAU) emissions scenario used for the Paris accord are in error. It has an increase in net radiative forcing by 2100 of 8.5 watts/m<sup>2</sup>, and the structural assumptions are a large increase in the use of coal for electrical generation and no change in the use of more cost-competitive natural gas. The experience of the world’s second-largest emitter, the United States, shows this to be wrong. Gas is rapidly replacing coal; the implications are noted below.

Two very recent publications (one of which is currently in press) underscore the need to use a lower, reality-based sensitivity. Millar et al. (2017) found that the overprediction of warming since 2000 has serious consequences for future warming, and they argued that, because of it, meeting the Paris aspirational goal of 1.5°C of warming by 2100 could happen if emissions were reduced by 70% of the BAU emissions that were used to calculate the effects of Paris.

There is a fundamental error in this approach, noted by Michaels (2017, in press). It assumes that the warming of the early 20<sup>th</sup> century (1910-45), which is statistically similar to the warming that began in the late 1970s and continued until “the pause” in 1997 (warming resumed in 2015) was anthropogenerated. If, as Stevens (2015) has shown, the cooling effects of anthropogenerated sulfate aerosols has been greatly overestimated, it then follows that assuming the early-century warming is caused by increasing carbon dioxide would mean that the subsequent warming would have to be enormous, which it clearly is not. In fact, tinkering with forcings in many aspects of the climate models is ubiquitous, and, as shown by Voosen (2016), they are all “tuned” to mimic both periods of warming, a logical impossibility unless the sulfate cooling in recent decades is assumed to be enormous. Stevens (2015) has shown that there is no support for this.

Consequently, Millar et al., have made a fundamental error in attributing the early 20<sup>th</sup> century warming to human activity. As a result, using their methodology, emissions reductions would have to be only 50% to hold warming to 2100 to 1.5°C, and a quite achievable 25% reduction to limit it to the top number in the Paris accord, which is 2.0°C. Global substitution of natural gas for coal in new electrical generation facilities would come very close to meeting this goal, as argued in Michaels (2017 in press).

The importance of this to the NHTSA EIS can’t be overstated. To summarize: it is now accepted that the average sensitivity in the CMIP5 models must be discounted, and that the baseline BAU emissions scenario for Paris is too high. Michaels (2017 in press) argues that, making these adjustments results in the world successfully meeting the high end warming

allowed by Paris. Therefore, the scope of the NHTSA EIS must include a scenario where 2022-2025 CAFÉ standards are unchanged from the 2021 standard.

## Summary

This document is in response to NHTSA's solicitation of public comments on the scope of their Environmental Impact Statement on 2022-2025 CAFÉ standards.

It is shown here that the CMIP5 suite of climate models, used by the IPCC and governments worldwide to craft global warming policy, including the Paris accord, have made a fundamental error in predicting too much warming in the early 21<sup>st</sup> century. Recent research, prominently published in *Nature Geosciences*, demonstrates that subsequent predicted warming must be reduced, and that a 1.5°C warming by 2100 could be achieved by reducing emissions eventually by 70%.

Additionally, as shown above, the CMIP5 models have made an enormous error in horizontal and vertical temperature predictions for the bulk tropical troposphere, which covers 37% of the earth and is the source for much of the world's rainfall. The propagation of forecast errors for sensible weather regimes through the CMIP5 models as a result of this has not been quantified, but it must be enormous, another reason to substitute real-world based sensitivity calculations, which are, on average, 40% lower than the CMIP5 sensitivity. NHTSA would be better served by using a mean equilibrium climate sensitivity of 2.0°C, and a 90% probability range of 1.5-3.5°C.

The aforementioned publication has a fundamental error in that it assumes that the warming of the early 20<sup>th</sup> century was anthropogenerated. Adjusting for this, as was done in Michaels (2017 in press), along with an assumption that favorable economics will hasten a transition from coal to natural gas for electrical generation means that the reductions necessary to meet the Paris accord are only 30%, which will be feasible.

The lower end of the 2022-25 CAFÉ standards considered by NHTSA in its EIS must therefore be the 2021 standard.

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BEFORE THE UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY

In re: )  
 ) EPA Docket No.  
Endangerment and Cause or Contribute )  
Findings for Greenhouse Gases Under ) EPA-HQ-OAR-2009-01  
Section 202(a) of the Clean Air Act )  
 )  
 )

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PETITION FOR RECONSIDERATION OF  
“ENDANGERMENT AND CAUSE OR CONTRIBUTE FINDINGS FOR  
GREENHOUSE GASES UNDER SECTION 202(a) OF THE CLEAN AIR ACT”

Filed by

**Concerned Household Electricity Consumers Council, consisting of  
Joseph D’Aleo, Clement Dwyer, Jr., Russell C. Slanover, Scott Univer,  
James P. Wallace III , Robin D. Weaver, and Douglas S. Springer**

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## **I.1 INTRODUCTION**

Pursuant to Section 307(d) of the Clean Air Act, 42 U.S.C. § 7607(d), the Concerned Household Electricity Consumers Council (“CHECC”), consisting of Joseph D’Aleo, Clement Dwyer, Jr., Russell C. Slanover, Scott Univer, James P. Wallace III, Robin D. Weaver and Douglas S. Springer, hereby petition the U.S. Environmental Protection Agency (“EPA” or “the Agency”) to convene a proceeding for reconsideration of the “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act” published by the Agency on December 15, 2009 (74 F.R. 66496, Dec. 15, 2009) (original EPA Docket No. Docket EPA-HQ-OAR-2009-171) (“the Endangerment Finding”).

As is more fully shown below, the Endangerment Finding was based on attribution of observed climate change to anthropogenic activities through what EPA termed its three “lines of evidence.” 74 C.F.R. at 66518. Scientific research since the adoption of the Endangerment Finding has invalidated each of EPA’s three lines of evidence. This Petition principally relies on the peer-reviewed Research Report of Wallace, *et al.*, that was first published on September 21, 2016. *See* <https://thsresearch.files.wordpress.com/2016/09/ef-cpp-sc-2016-data-ths-paper-ex-sum-090516v2.pdf> (“Research Report”). That Research Report is based on evidence that includes data as to atmospheric temperatures subsequent to the 2009 Endangerment Finding. The invalidation of the Endangerment Finding is conclusive, and thoroughly undermines all basis for any and all EPA regulation that is based on the Endangerment Finding, and the Social Cost of Carbon estimates that are based on this Finding.

The regulations that are based on the Endangerment Finding have resulted in much ongoing activity in the economy that looks to shut down existing sources of electricity and replace them with other much more expensive sources. Much of this activity is ongoing and, if not halted promptly, will impose massive new burdens on consumers of electricity. Therefore, Petitioners ask that EPA promptly convene hearings on this subject and issue a new “Non-Endangerment Finding” no later than June 20, 2017.

## **II.1 LEGAL STANDARD**

Section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. § 7607(d)(7)(B), states in relevant part:

If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such an objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed.

Thus, EPA is required to convene a proceeding for reconsideration upon a showing of two conditions precedent: (1) the information arose after the period for public comment on the Endangerment Finding and (2) the objection is of “central relevance to the outcome of the rule.”

The procedural and substantive requirements for a petition for reconsideration are easily met here. The matters in this Petition could not have been raised during the comment period on the Endangerment Finding because the Research Report on which this Petition principally relies was first published on September 21, 2016, close to seven years *after* the Endangerment Finding. The Research Report in turn relies on substantial scientific evidence and data that did not exist at the time of the Endangerment Finding, namely data as to atmospheric temperatures that include extensive data for time periods subsequent to the Endangerment Finding. It was therefore not only impracticable but impossible to have raised these grounds within the original comment period or the period for judicial review of the Endangerment Finding.

The Petition is also timely under the rule of *Oljato Chapter of the Navajo Tribe v. Train*, 515 F.2d 654 (D.C. Cir. 1975).<sup>1</sup> *Oljato Tribe* sets forth a straightforward three-step process for EPA to follow in handling petitions for reconsideration under the Clean Air Act:

- (1) The person seeking revision of a standard of performance, or any other standard reviewable under Section 307, should petition EPA to revise the standard in question. The petition should be submitted together with supporting materials, or references to supporting materials.
- (2) EPA should respond to the petition and, if it denies the petition, set

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<sup>1</sup> The Clean Air Act’s legislative history makes clear that “the committee bill confirms the court’s decision in *Oljato Chapter of the Navajo Tribe v. Train*, 515 F.2d 654 (D.C. Cir. 1975).” See H.R. Rep. 95-294, at 323 (May 12, 1977).



forth its reasons. (3) If the petition is denied, the petitioner may seek review of the denial in this court pursuant to Section 307.

*Id.* at 666.

This Petition satisfies the requirements enumerated in *Oljato Tribe*. It satisfies the first step because it seeks the withdrawal of the Endangerment Finding on specified legal grounds, namely that the attribution of warming to human emissions on which the Endangerment Finding is based has been conclusively invalidated. EPA thus has a duty to respond under the second step, with any denial of the Petition subject to review in the D.C. Circuit under the third step.

*Oljato Tribe*, in establishing the right to seek reconsideration, does no more than recognize the reality, first emphasized in the legislative history to the 1970 Clean Air Act Amendments that regulations may need to be revised in light of new information:

Section 307 originated in the Senate version of the Clean Air Act. The Senate committee described its purpose in allowing for subsequent review based on new information as follows:

The committee recognizes that it would not be in the public interest to measure for all time the adequacy of a promulgation of any standard or regulation by the information available at the time of such promulgation. In the area of protection of public health and environmental quality, it is clear that new information will be developed and that such information may dictate a revision or modification of any promulgated standard or regulation established under the act. The judicial review section, therefore, provides that any person may challenge any promulgated implementation plan after the date of promulgation whenever it is alleged that significant new information has become available.

S.Rep.No.91-1196, 91st Cong., 2d Sess., 41-42 (1970).

*Oljato Tribe*, 515 F.2d at 660. Thus, when critical new information becomes available, as here, after a “regulation” has been “promulgated,” argument should be directed to EPA in the first instance on reconsideration, to build an appropriate administrative record for later D.C. Circuit review. *See id.* 665-66.

In *Oljato Tribe*, the holding of which was expressly confirmed in the legislative history of the 1977 Clean Air Act amendments the relevant

reconsideration petition was remanded to EPA for consideration on its merits even though it was filed long outside the review period. Where, as here, the grounds for reconsideration arise after the close of the review period, the petition must still be considered.

The D.C. Circuit explained in *Ojato Tribe* that “the public’s right to petition the Administrator for revision of a standard of performance and the Administrator’s duty to respond substantively to such requests *exist completely independently of Section 307 and this court’s appellate jurisdiction.*” 515 F.2d at 667 (emphasis added). Thus, in *PPG Indus., Inc. v. Costle*, 659 F.2d 1239, 1250 (D.C. Cir. 1981), the D.C. Circuit held that amendment or repeal of a Clean Air Act regulation could be sought under APA Section 553(e) or Section 307(d)(7)(B), even well outside the 60-day review window:

Alternatively, a petition may be filed directly with EPA to interpret or amend the standard, to withdraw the Guidelines, or to specify midnight to midnight reporting procedures. *See* 42 U.S.C. § 7607(d)(7)(B); 5 U.S.C. § 553(e). Either route would provide a reviewing court with a contemporaneous record of the agency’s consideration of this issue, rather than with the “post hoc rationalizations of counsel.” *See Ojato Chapter of the Navajo Tribe et al. v. Train*, 515 F.2d 654, 665-68 (D.C. Cir. 1975).

*PPG Indus., Inc. v. Costle*, 659 F.2d at 1250. This procedure has been repeatedly recognized and approved. “The court subsequently endorsed the same procedure [as in *Ojato Tribe*], also under section 307, in *Group Against Smog & Pollution, Inc. v. EPA*, 665 F.2d 1284, 1290 (D.C. Cir. 1981); and *Natural Resources Defense Council, Inc. v. Thomas*, 845 F.2d 1088 (D.C. Cir. 1988).” *Ciba-Geigy Corp. v. EPA*, 46 F.3d 1208, 1210 (D.C. Cir. 1995) (agreeing with the reasoning of those cases). The Agency itself granted a three-month stay of an emissions standard promulgated nearly four years earlier. *See* 63 Fed. Reg. 24,749 (May 5, 1998).

In sum, it is well-settled that EPA has a duty to consider and grant this Petition for Reconsideration, under both Section 307 and as a petition for rulemaking under 5 U.S.C. 553(e), because the grounds presented arose after the close of the period for public comment and judicial review.<sup>2</sup>

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<sup>2</sup> To be clear, this Petition seeks relief alternatively under Clean Air Act Section 307(d)(7)(B) and 5 U.S.C. § 553(e).

Where, as here, the issues on reconsideration are substantial, a summary denial of the Petition would constitute an abuse of EPA's discretion. *Id.* at 666, n. 19. Likewise, a decision that EPA lacks authority to entertain the petition at all would misread the Agency's statutory mandate. *See Prill v. NLRB*, 755 F.2d 941, 947-48 (D.C. Cir. 1985), and its progeny. EPA may and must exercise the statutory discretion it has been delegated to consider this Petition on its merits.

The matters raised in this Petition are clearly of "central relevance" to the outcome of the Endangerment Finding. Indeed, the Research Report thoroughly and conclusively invalidates the entire basis for the Endangerment Finding, as that basis is stated and defined in the Endangerment Finding itself. *See Coalition for Responsible Regulation v. EPA*, 684 F.3d 102, 125, 126 (D.C. Cir. 2012) (defining test of "central relevance"), *reversed on other grounds sub. nom. Utility Air Regulatory Group v. EPA*, 134 S.Ct. 2427 (2014).

### III.7 STANDING OF THE PETITIONERS

The Petitioners herein are the Concerned Household Electricity Consumers Council ("CHECC"), and its members, namely Joseph D'Aleo, Clement Dwyer, Jr., Russell C. Slanover, Scott Univer, James P. Wallace III, Robin D. Weaver, and Douglas S. Springer.

Each of CHECC's members is a citizen of the United States and a member of a household that pays a monthly electricity bill to a utility that in turn is regulated by EPA. EPA's regulations based on the Endangerment Finding— notably but not exclusively including the so-called Clean Power Plan, 40 C.F.R. at 64662, *et seq.*— seek to replace current electricity generation sources primarily based on fossil fuels like coal and natural gas with so-called "renewables," principally wind turbines and solar panels. Replacement of fossil fuel sources with such renewables that provide power only intermittently, threatens to increase the cost of electricity paid by the Petitioners (and by all Americans) by a factor of five or likely far more. Thus, should EPA's Endangerment Finding not be reconsidered and revoked, each of the Petitioners faces electricity bills that will inevitably increase over the coming years by many thousands of dollars per year. On a nationwide basis, the unnecessary incremental cost to consumers of replacing fossil fuel-based electricity generation with intermittent renewables is likely to be in the range of hundreds of billions of dollars per year, if not more.

A critical problem with intermittent renewables like wind and solar power lies in the excess costs that must be incurred to turn power from these sources into a fully-functioning electricity system that provides reliable power 24 hours a day, 7

days a week, and 365 days a year. Unfortunately, the wind is often calm or blows lightly; and the sun goes completely dark fully half the time (“night”), and also shines at far less than full strength on winter days, cloudy days, cloudy winter days, and at dawn and dusk. At many of these times, consumer power demands are high.

When the intermittent sources provide less than 10% of the electricity in a system, the problems of intermittency typically make only a small cost difference. On a calm night, the lack of power from wind and solar sources can be covered over by a cushion of 10 – 15% or so of excess fossil fuel-based electric power generation capacity. But as the percent of electricity generation from intermittent renewables increases to 15% and beyond, the necessary additional costs multiply. That proposition is demonstrated by the experience of states and countries that have attempted to increase the percent of their electricity generated by intermittent renewables.

For example, California is a “leader” in the United States in generating power from wind and solar sources. According to the California Energy Commission, in 2015 California got 6% of its electricity supply from solar and 8.2% from wind, for a total of 14.2% from those two intermittent sources. *See* [http://www.energy.ca.gov/almanac/electricity\\_data/total\\_system\\_power.html](http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html) According to the U.S. Energy Information Agency, California’s average electricity rate that year was 15.62 cents per kWh, versus a U.S. average of 10.31 cents per kWh. *See* [https://www.eia.gov/electricity/monthly/epm\\_table\\_grapher.cfm?t=epmt\\_5\\_6\\_a](https://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_6_a) In Europe, Germany began its so-called *Energiewende* (“energy transformation”) in 2010, and by 2015 had gotten the portion of its electricity generated from wind and solar all the way up to just over 30%. *See* <http://www.eia.gov/todayinenergy/detail.php?id=26372> The result: the average German household’s electricity rate in 2015 had risen to 28.7 euro cents per kWh, about *triple* the average U.S. rate. *See* <https://www.cleanenergywire.org/factsheets/what-german-households-pay-power>

Analyses of the soaring price of electricity in Germany place the blame squarely on excess costs that have been necessarily incurred to try to get to a stable, functioning, 24/7/365 system with so much input from intermittent renewables. First, massive wind and solar capacity must be installed to try to deal with days of light wind and heavy clouds And for calm nights when the wind and solar sources produce nothing, nearly the entire fleet of fossil fuel plants must be maintained and ready to go, even though those sources may be idle much of the time. And then, some means must be found to deal with the surges of available

electricity when the wind and sun suddenly blow and shine together at full strength at the same time. As noted by Benny Peiser at the Global Warming Policy Foundation on April 4, 2015 (<http://www.thegwpcf.com/benny-peiser-eus-green-energy-debacle-shows-the-futility-of-unilateral-climate-policies/>):

Every 10 new units worth of wind power installation has to be backed up with some eight units worth of fossil fuel generation. This is because fossil fuel plants have to power up suddenly to meet the deficiencies of intermittent renewables. In short, renewables do not provide an escape route from fossil fuel use without which they are unsustainable. . . . To avoid blackouts, the government has to subsidize uneconomic gas and coal power plants. . . . Germany's renewable energy levy, which subsidizes green energy production, rose from 14 billion euros to 20 billion euros in just one year as a result of the fierce expansion of wind and solar power projects. Since the introduction of the levy in 2000, the electricity bill of the typical German consumer has doubled.

And those extra costs are just to get to a system that gets about 30% of power from the intermittent renewables. To get higher than that, some means must be found to store the power from the wind and sun for release at times of calm and dark. To make this work, major cities like New York would require the equivalent of tens of millions of Teslas' worth of batteries, at a cost of tens or hundreds of billions of dollars.

An idea of how much extra costs must be incurred to get to a system that approaches 50% or more of electricity generation from intermittent renewables, we can look to a demonstration project that was put together in South Korea for a small community of just 97 households and 178 people. A report on the Gapa Island Project appeared on the Hankyoreh news site in July 2016 at [http://english.hani.co.kr/arti/english\\_edition/e\\_national/752623.html](http://english.hani.co.kr/arti/english_edition/e_national/752623.html). With average electricity usage of 142 kw, and maximum usage of 230 kw, the islanders installed wind and solar capacity of 674 kw— about *three times* maximum usage, to deal with light wind and low sun. They also bought battery capacity for about eight hours of average usage. The cost of the wind and solar capacity plus batteries was approximately \$12.5 million, or about \$125,000 per household. And with all that investment the islanders were still only able to get about 42% of their electricity from the sun and wind when averaged over a full month. They still needed the full fossil fuel backup capacity.

By applying a reasonable cost of capital to a system like that of Gapa Island, and considering additional elements of a system, like additional storage, that would

be necessary to push generation from renewables to higher levels, one can calculate that a system like the Gapa Island demonstration project for the full United States would lead to electricity costs of *at least five times* their current level, and more likely, far higher. Even then, the U.S. would be hard-pressed to achieve 50% of electricity from intermittent renewables. The Petitioners obviously have a strong personal interest in heading off such disastrous cost increases. Granting the relief sought by this Petition would prevent those cost increases from occurring.

#### **IV.7 THE “LINES OF EVIDENCE” ON WHICH EPA BASED THE ENDANGERMENT FINDING HAVE ALL BEEN INVALIDATED.**

EPA’s Endangerment Finding appears at 74 C.F.R., page 66,495, *et seq.* At page 66,518 EPA sets forth the three “lines of evidence” upon which it says it has attributed “observed climate change” to “anthropogenic activities,” thus providing the basis for the Finding that human GHG emissions endanger human health and welfare:

The attribution of observed climate change to anthropogenic activities is based on multiple lines of evidence. The first line of evidence arises from our basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system. The second line of evidence arises from indirect, historical estimates of past climate changes that the changes in global surface temperature over the last several decades are unusual. The third line of evidence arises from the use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic).

More information about the nature of each of the three “lines of evidence” can be gleaned from EPA’s further elaboration in the Endangerment Finding itself and the associated Technical Support Document.

By the first “line of evidence,” (“our basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system”), EPA is referring to its “greenhouse gas fingerprint” or “tropical hot spot” (“Hot Spot”) theory, which is that in the tropics, the upper troposphere is warming faster than the lower troposphere and the lower is warming faster than the surface, all due to rising atmospheric greenhouse gas concentrations blocking heat transfer into outer space. By this mechanism,

increasing greenhouse gas concentration is assumed to increase surface temperatures.

The second “line of evidence” (“indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual”) refers to EPA’s claim that global average surface temperatures have been rising in a dangerous fashion over the last fifty years.

The third “line of evidence” (“use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic)”) consists of EPA’s reliance on climate models (not actually “evidence”) that assume that greenhouse gases are a key determinant of climate change. EPA uses climate models for two purposes: to “attribute” warming to human GHG emissions, and to set regulatory policy for such emissions based on their modeled impact on global temperatures.

The Research Report of Wallace, et al. (September 21, 2016) undertook to assess each of EPA’s three “lines of evidence” and to either validate or invalidate each of them based on the best available historical temperature data. In accordance with the scientific method, the Research Report used the best available temperature data from multiple sources, all of them completely independent from each other, for the validation/invalidation exercise. The data used in the Research Report are available at the following url: <https://thsresearch.files.wordpress.com/2017/01/ef-cpp-sc-2016-data-ths-data-master-original.xlsx>. Equally available from the text of the Report itself are all the methods, equations and formulas that were used to produce its results. In other words, the Report is fully replicable by any scientist who wishes to check or question its methods or results.

The principal conclusions of the Research Report are as follows:

- <sub>7</sub> “These analysis results would appear to leave very, very little doubt but that EPA’s claim of a Tropical Hot Spot (THS), caused by rising atmospheric CO<sub>2</sub> levels, simply does not exist in the real world.”
- <sub>7</sub> Once EPA’s THS assumption is invalidated, it is obvious why the climate models they claim can be relied upon, are also invalid.
- <sub>7</sub> “[T]his analysis failed to find that the steadily rising Atmospheric CO<sub>2</sub> Concentrations have had a statistically significant impact on any of the 13 critically important temperature time series data analyzed.”

- <sup>7</sup> “[T]hese results clearly demonstrate - 13 times in fact - that once just the ENSO [El Nino/La Nina] impacts on temperature data are accounted for, there is no “record setting” warming to be concerned about. In fact, there is no ENSO-Adjusted Warming at all.”

Research Report, p. 4.

This means that the climate sensitivity parameter’s estimate is not statistically significant. Therefore, the Social Cost of Carbon estimates now in widespread use to justify regulation of CO2 emissions are fundamentally flawed. The actual Social Cost of Carbon is negative rather than positive, meaning that CO2 is in fact a beneficial gas.

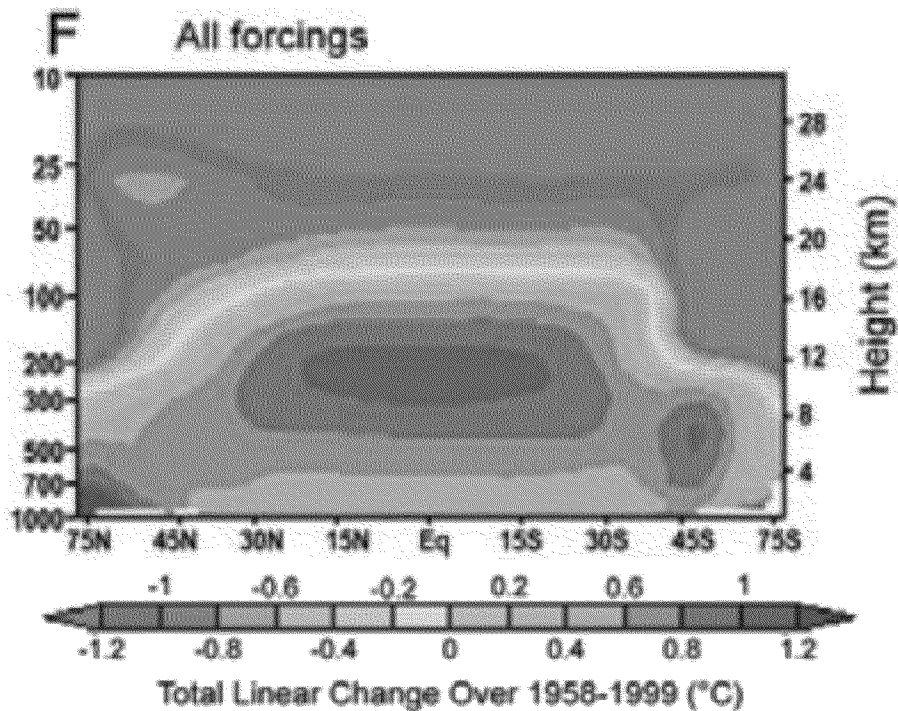
Invalidation of the the Hot Spot requires reconsideration of the Endangerment Finding because the Hot Spot is a critical and necessary component of the “physical understanding” of climate that EPA claims as the foundational line of evidence supporting the Endangerment Finding. For example, the “physical understanding” of the atmospheric greenhouse mechanism set forth in<sup>7</sup>U.S. Climate Change Science Program, Synthesis and Assessment Product 1.1, Temperature Trends in the Lower Atmosphere - Understanding and Reconciling Differences, (“SAP 1.1”), Chapter 1, § 1.1, The Thermal Structure of the Atmosphere, p. 17-19, [https://www.gfdl.noaa.gov/bibliography/related\\_files/vr0603.pdf](https://www.gfdl.noaa.gov/bibliography/related_files/vr0603.pdf): explicitly relies upon the Hot Spot:

The presence of such greenhouse gases (e.g., carbon dioxide, methane, nitrous oxide, halocarbons) increases the radiative heating of the surface and troposphere. As specific humidity is strongly related to temperature, it is expected to rise with surface warming (IPCC, 1990), The increased moisture content of the atmosphere amplifies the initial radiative heating due to the greenhouse gas increases (Manabe and Wetherald, 1967; Ramanathan, 1981). The re-establishment of a new thermal equilibrium in the climate system involves the communication of the added heat input to the troposphere and surface, leading to surface warming (Goody and Yung, 1989; IPCC, 1990; Lindzen and Emanuel, 2002). From the preceding discussions, the lapse rate can be expected to decrease with the resultant increase in humidity, and also to depend on the resultant changes in atmospheric circulation. **In general, the lapse rate can be expected to decrease with warming such that temperature changes aloft exceed those at the surface.** As a consequence, the characteristic



infrared emission level of the planet is shifted to a higher altitude in the atmosphere.

(Emphasis added). The CCSP SAP 1.1 report depicted the Hot Spot graphically in figure 1.3, p. 25, as follows:



Similarly, the IPCC's Fourth Assessment Report (AR4) also states unequivocally that the Hot Spot is an integral feature of the "physical understanding" of the climate's hypothesized greenhouse warming mechanism. This is demonstrated by AR4 WG1, The Physical Science Basis, Chapter 9, Figure 9.1. Panel (c) shows the modeled effect of GHGs, and clearly depicts the hot spot:

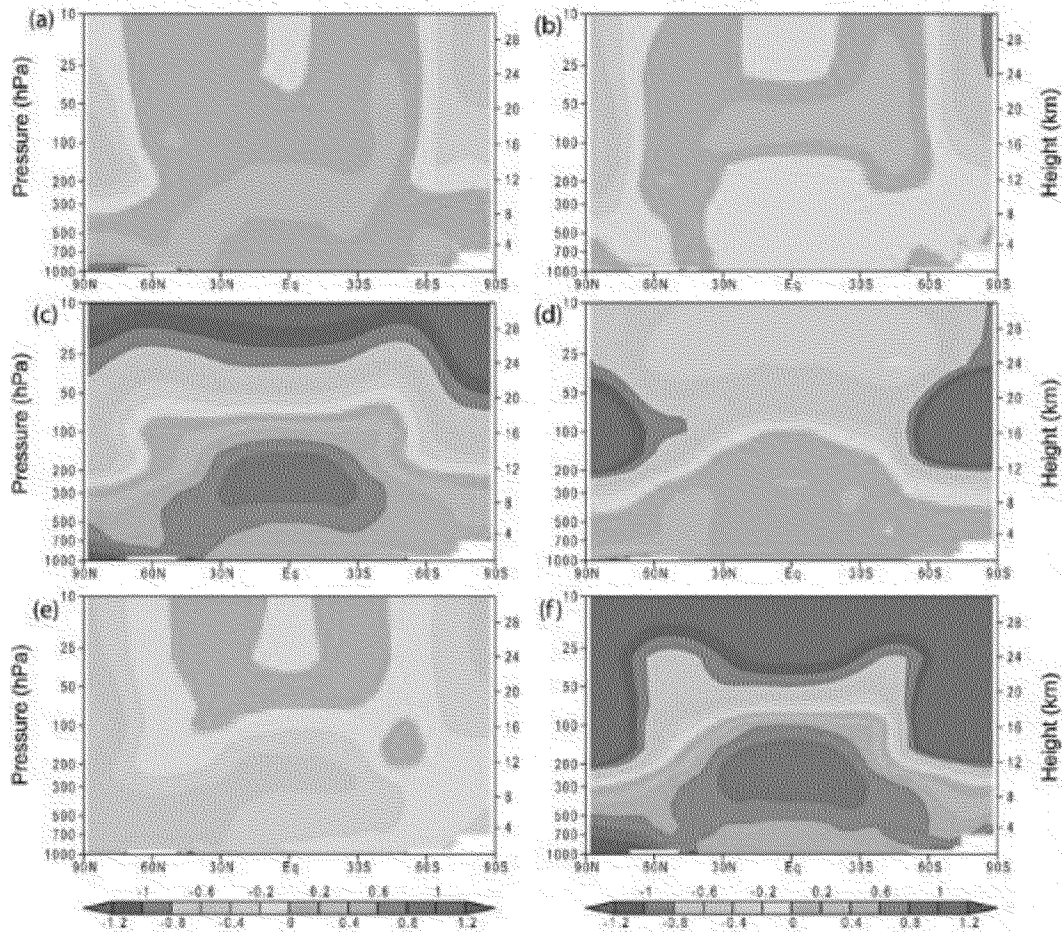


Figure 9.1. Zonal mean atmospheric temperature change from 1890 to 1999 ( $^{\circ}\text{C}$  per century) as simulated by the PCM model from (a) solar forcing, (b) volcanoes, (c) well-mixed greenhouse gases, (d) tropospheric and stratospheric ozone changes, (e) direct sulphate aerosol forcing and (f) the sum of all forcings. Plot is from 1,000 hPa to 10 hPa (shown on left scale) and from 0 km to 30 km (shown on right). See Appendix 9.C for additional information. Based on Santer et al. (2003a).

The text accompanying this figure explains that “The major features shown in Figure 9.1 are robust to using different climate models.” IPCC AR4 WG1 § 9.2.2. ([http://www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/ch9s9-2-2.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch9s9-2-2.html)). “Greenhouse gas forcing is expected to produce warming in the troposphere, ... .” *Id.*

In adopting the Endangerment Finding, EPA explicitly, repeatedly and irrevocably placed primary reliance on the US CCSP reports and the IPCC AR4. See TSD Box 1.1, p 4. These assessments are cited thousands of times in the full set of documentation for the Endangerment Finding.

The CCSP report cited above said if the Hot Spot were missing it would be a “potentially serious inconsistency.” SAP 1.1, p. 11. (Emphasis added). Yet the

CCSP ultimately sided with those claiming at the time that the mismatch between observations and prediction was not fatal. *Id.*

EPA also acknowledged in the Technical Support Document for the Endangerment Finding that if the Hot Spot were missing it would be “an important inconsistency.” TSD p. 50. EPA’s team, including Tom Karl, agreed with the CCSP (led by the same Tom Karl) and concluded there was no dispositive conflict between prediction and observation. *Id.*

The Research Report, using substantial scientific evidence and additional data available only after 2009, not only shows a “an important inconsistency,” it invalidates the Hot Spot entirely. This is fatal to the EPA’s claimed physical understanding of climate, and is likewise fatal to the climate models constituting EPA’s third line of evidence. These models, relying on an invalidated physical theory, all predict the Hot Spot. Proper analysis of more than 50 years of balloon and 37 years of satellite temperature data generated by five independent entities conclusively shows that the Hot Spot does not exist. This demonstrates that the models are invalid and unreliable and cannot properly be used for attribution analysis or forecasting warming due to anthropogenic CO<sub>2</sub> emissions.

In sum, all three of the lines of evidence relied upon by EPA to attribute warming to human GHG emissions are invalid. The Endangerment Finding itself is therefore invalid and should be reconsidered. Moreover, this reconsideration is particularly urgent at this point in time in that the widely used Social Cost of Carbon has now been demonstrated to be fundamentally flawed. To put it mildly, the current Endangerment Finding and Social Cost of Carbon are leading the nation in the wrong direction from an energy policy standpoint. Decarbonization makes absolutely no scientific or economic sense.

## V.7 CONCLUSION

No scientists have yet devised an empirically validated theory proving that higher atmospheric CO<sub>2</sub> levels will lead to higher global average surface temperatures. Moreover, if the causal link between higher atmospheric CO<sub>2</sub> concentrations and higher temperatures is broken by invalidating each of EPA’s three lines of evidence, then EPA’s assertions that higher CO<sub>2</sub> concentrations also cause sea-level increases and more frequent and severe storms, floods, and droughts and other deleterious effects on human health and welfare are also disproved. Such causality assertions require a validated theory that higher atmospheric CO<sub>2</sub> concentrations cause increases in temperatures. Lacking such a validated theory, EPA’s conclusions cannot stand. In science, credible empirical

data always trump proposed theories, even if those theories are claimed to (or actually do) represent the current consensus, or, in this case, a finding made by EPA.

The invalidated Endangerment Finding, combined with a fundamentally flawed and dangerous Social Cost of Carbon estimate, are now driving numerous potentially crippling regulations, including the Clean Power Plan and the newly proposed automotive fuel economy standards. EPA should therefore promptly convene a proceeding to reconsider the Endangerment Finding.

Respectfully submitted this 20th day of January, 2017.

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# The Heartland Institute Guidelines for Public Speaking

By Joseph Bast  
Last updated June 2017

## Who Needs Stinking Guidelines?

You have probably spent many hours, even years, becoming an expert on your subject. Nobody knows better than you do the “right way” to explain it to an audience, right?

Wrong.

**Communications studies suggest that up to 93 percent of your message’s impact is based on your appearance, not your words.**

That means if the public doesn’t like your body language – your appearance, posture, facial expressions, and gestures – your message won’t be heard – or worse, it will be discredited.

Half of the audience will decide whether or not to dismiss what you have to say before you even open your mouth. And two thirds of those who listen will judge what you say based on things *other than what you say*.

*Understanding the rules of body language is important in many circumstances.* Public speaking and media interviews are two obvious cases, since you are reaching a large audience and only have one chance to get it right. But it’s also important in fundraising meetings, in meetings with elected officials and fellow staff, even with family members and the next guy you buy a car from.

**You are always being judged by your body language. The good news is, you have lots of control over your body language and can change it, if you want to.**

## 1. Stop Thinking You Can’t Be a Good Public Speaker

Don’t fall for the myth that some people are just “natural” public speakers or have an innate charisma you will never have. **Anyone can be a good communicator. You just have to want to improve, prepare, and practice.**

Take a good look at a picture of New Jersey Gov. Chris Christie. If you didn’t know who he was, you’d think he was a garbage collector in the Bronx. You are way better looking than he is, yet he got elected governor. Watch some YouTube videos of Christie speaking. *It’s all about his*

*body language.*

The Heartland Institute is dedicated to *continuous improvement*. Just because your appearance, posture, expressions, etc. at the last meeting, interview, or speech weren't exactly great, you can do better next time.

Lurking inside you is somebody who could be the next President of the United States, and starting today, you're going to take control over your body language to start up (or down) that path.

*The Definitive Book of Body Language* by Allan and Barbara Pease (2004) is almost 400 pages long and contains a lot of excellent advice. The rest of this memo contains some good suggestions from that book as well as some advice based on personal experience, observation, and other sources.

## **2. Sit Up Straight and Smile**

You probably remember this from growing up... some of us will remember it from attending parochial schools: "Sit up straight and smile!"

Slouching shows disinterest for the subject and disrespect for the audience. Frowning conveys deep concentration and seriousness, but also signals disapproval and defensiveness.

**Smiling means confidence and openness to agreement or disagreement. Smile, don't frown.**

Slouching, which can be caused by a soft chair or a chair with a back that tilts back, creates the appearance of defeat or fatigue (defeated by an invisible opponent or challenge). **Always sit up, lean forward a little**, as if this is so interesting you might just jump out of your chair!

Deliberately raise your chin. Introverts tend to look down at desk tops, suddenly finding notes or coasters more interesting than the person they are talking to. It takes an act of will to deliberately look up and keep looking up. **Raise your chin!**

In one-on-one meetings, mirror the body language of the person you are trying to influence. Watch old friends talking, and you'll often notice they both lean back in their chairs, or lean forward over their drinks, or cross their legs the same way, or even cross their arms (in this case it's a good thing). Subconsciously, one of them is mirroring the posture and gestures of the other, and the other one appreciates it.

**When not mirroring, assume the posture of the victor or confident warrior.** Standing and walking while delivering a presentation (but not pacing) conveys that sense. Even turning your back on an audience conveys confidence, but don't over do. The second or third time, they may return the favor and leave the room while you aren't looking!

### 3. Be Well-Armed

For seated interviews, keep your arms open and ready to gesture at any moment. When not gesturing, keep your arms on your lap with your hands near your knees. **If a table separates you from the host, resist the temptation to lean forward with your elbows on a table.**

For standing interviews, keep your arms by your side or, even better, in front of your torso. Avoid hugging your body in any way and resist the temptation to place your hands in your pockets.

When standing behind a lectern, avoid the temptation to grip its sides. Doing so for a few seconds at a time is fine, but it is a form of slouching that causes your jacket or blouse to bunch up on your shoulders.

(I once watched the late-great Hans Sennholz give a lecture in which he literally tore the lectern from the floor and nearly tipped it over in an enthusiastic bear-hug. Very memorable, but you should not do that.)

**If you need notes, you need to stand behind a lectern.** If you don't need notes, and if there isn't a stationary camera focused on the lectern, walk away from the lectern so the audience can see your full body.

If you plan to walk around on a stage, ask the host for permission first. If your presentation is being filmed, your mobility could ruin the tape.

If you plan to walk around, ask for a Levolor clip-on mike, because carrying a microphone will limit your gestures and obscure your face if you need to "swallow the microphone," as is sometimes the case.

### 4. Be Handy

Using natural hand gestures makes you look more animated and engaged and actually helps the audience retain information. According to the Peases, "using hand gestures grabs attention, increases the impact of communication, and helps individuals retain more of the information they are hearing."

**A gesture is like a prop, a visual feature that captures attention and keeps the audience members' minds from wondering.**

For some people, being on camera causes their hands to freeze. This is partly due to awareness that the camera is focusing on their face and all mental energy is focused on keeping an appropriate expression so the hands are forgotten. *Don't forget your hands!* Deliberately re-animate your frozen hands.

Do not use a “pounding” or “chopping” hand gesture, as if pounding the point home. This can be distracting, too repetitive, and even threatening.

Concentrate on making *horizontal* rather than *vertical* hand gestures. Sweeping gestures with open hands (palms up or forward) suggest welcome, optimism, and hope.

Keep your hands away from your face and hair. Liars tend to touch their noses... Bill Clinton famously stroked his nose while telling us he “didn’t have sex with that woman.”

Nervousness makes the scalp itch. Don’t scratch it.

Men with beards sometimes tend to stroke their beards. A few seconds of this shows you are contemplative, more than that says you are vain or have a hygiene problem.

Resting your chin in your hand looks philosophical if done for a few seconds, but makes you look like you are slouching and obscures your expression.

Creating a temple with your fingers also makes you look philosophical, but if you do it for more than a few seconds at a time, it looks like you’re praying or affecting a pose.

Stress makes you massage your hands, as if washing mistakes off them. Don’t do that.

## **5. Where Is Your Prop?**

**Never give a speech without a prop. Never, ever, ever!**

Every speech benefits from a prop – a book, magazine, bottle of pills, stuffed animal, a candle, a tube of frack sand, a dead fish, heck, just about anything – for the same reason gestures work, they give people a physical object to look at and connect with the abstract ideas you are communicating.

Props also keep your hands busy, keeping them out of your pockets and off your face or hair.

**A pen is not a prop.** Stress makes you twist and turn a pen in your hands, sometimes causing you to snap it in two without realizing what you’ve done. Waving a pen looks like you are wielding a weapon. It is best not to have a pen in your hand while talking.

**A Powerpoint presentation is a prop.** That is why it works. A good colorful slide (with a picture or graph and with no more than 8 words on it) is, frankly, more attractive and possibly entertaining than you are.

**If others are using Powerpoint, you should too,** because the audience will be conditioned to expect “eye candy” from you, too. Without it, some people will think you didn’t prepare for the event.



In an earlier age, Dean Martin rode two props – a cigarette and martini glass – to fame and fortune. That era is past, but it illustrates how powerful props can be.

## 6. Look Better

You're competing with cable TV stars on high-def TVs with blazing white perfect teeth. Your teeth may not be perfect, but at least they can be white and not a sickly yellow. Whiten your teeth. **Buy some Crest white-strips and use them.**

**Remove your name tag before you reach the stage.** Name tags often are large and garish and hang crooked... during your entire talk, people are looking at that dumb name tag bouncing around your chest.

**Men, button your sport jackets when speaking.** It will make you look more trim and keep your necktie in place. It will also make it more difficult for you to put your hands in your pockets, which is a good thing.

If you are wearing a sport jacket and need to sit on a stage while waiting to speak or at a table for a meeting or interview, unbutton your jacket and pull it down below your butt and sit on it. This prevents it from bunching up around your shoulders and neck.

Get your shirts professionally dry cleaned and pressed. It only costs a couple bucks and looks a lot better than curly collar tips and dirty shirt cuffs.

**If you are a guy, get a hair cut and then be sure to comb it before a meeting or speaking in public.** Shorter hair *always* looks better on television. A stray shock of hair sticking up, out, or over your brow is distracting, but no one will tell you that until it's too late. Cut it or comb it.

**If you have a beard, trim it.** Dark thick beards are sinister looking and hide facial expressions, especially if allowed to cover upper cheeks. Trim mustaches short and above the upper lip, since they hide the flash of teeth that makes your smile so fetching.

## 7. Turn that Frown Upside-Down

**Instead of frowning to show disagreement or concentration, try cocking your head.** It's a universal sign of "wonder" – dogs do it, and everyone likes dogs – that can't be confused with being defensive or angry. Be sure to straighten your head back up after a few seconds.

**Laugh out loud.** Not a silly giggle, bark, or roar, but don't just smile and belly-laugh, either. Vocalize your laughter and show your teeth. If you spend any time in bars, you know everyone looks at the person who is laughing. We're hard-wired to look at him. *Be that guy.*

Look up, not down, when laughing. Ideally, laugh at someone *else's* joke or expense, not your

own.

Don't laugh uncontrollably or so often that you aren't taken seriously. If speaking in public is like a meal, then laughing out loud is the dessert. Do it just a few times.

## 8. Maintain Eye Contact

How good are you at maintaining eye contact when you talk to someone?

Introverts tend to look up at the ceiling or down at their shoes (or cellphones) while talking, or even close their eyes, since they can picture ideas floating around up there. Don't do that. Force yourself to maintain eye contact with the person across the table.

If you're average, you maintain eye contact just 40 to 60% of the time when talking. That's not a bad thing in everyday life -- after all, you'd make people uncomfortable if you stared at them for several minutes without breaking eye contact.

For most meetings where you are trying to persuade the other party of something, aim for 70 to 80% eye contact. When speaking to an audience, that means locking eyes with individuals in the audience left, right, center, first row, and last row.

For media interviews, aim for 100 percent eye contact with the interviewer or the camera lens, depending on the format. Your eyes are huge on a high-definition television, and shifting eyes can make you look nervous, evasive, or untrustworthy.

## 9. Watch Your Ankles

According to the Peases, even your ankles communicate: "When an interviewee locks his ankles, he is mentally 'biting his lip.' The gesture shows that he is holding back a negative emotion, uncertainty, or fear."

**For seated interviews, plant your feet firmly on the floor.** Hooking them and putting them beneath a chair makes you lean forward and rock, which is distracting and not real dignified.

Crossing legs while seated on a stage is always a bad idea, even if it is more comfortable or meant to convey solidarity with the audience or other speakers. Adlai Stevenson was the last politician who got away with this, only because it showed off a hole in the sole of his shoe.

Women wearing skirts should avoid crossing their legs while seated. **When on a stage before a seated audience, the audience's point of view is lower than in other venues.** Women wearing skirts can cross their legs at the ankles while seated, but should keep their legs close together and tip their feet left or right, not tucked beneath a chair.

Women standing on stages should avoid really high heels, which can cause stumbling when climbing or descending platform stairs, a teetering or tip-toeing appearance when standing on a stage, and can be visually distracting when seated on a bar stool on stage.

Both sexes should avoid planting their feet too far apart when standing – as if straddling an invisible horse – or too tightly together, as if standing at attention or seeking permission to go to the bathroom.

## 10. Control Your Stage

The world is your stage. You often are able to dictate where a meeting takes place or details of the stage if you are asked to speak. Don't assume other people know better than you do about the best venue or how to arrange chairs.

If the meeting is with others in a conference room, arrive early and adjust the seating and lighting to make it as attractive and comfortable as possible. If necessary clean stuff off the table that might be distracting.

Don't assume that just because the last people using the room left it in a certain condition, you are obligated to accept it. Don't assume that you can't touch anything because it's not your stuff. You will be judged by the appearance of the room, even though it is someone else's conference room.

**Bring your own bottled water with you to meetings and to a stage**, rather than ask your host to be your waiter or trust that the previous speaker didn't drink the last bottle of water.

**Make the water room temperature**, because ice water will contract your throat muscles and make you more, not less, hoarse.

If you are less than 5'-8" and need a lectern, ask the host for a shorter or adjustable lectern or a step or platform to stand on so the audience can see you behind the lectern. Don't be shy or proud about this. The audience wants to see more than just your head. Lecterns are built for taller people than you are, and some of them (especially at older hotels) are really tall.

The latest trend in public events is to use bar stools rather than chairs on stages, in order to improve the audience's sight-lines. Bar stools pose special problems for both men and women. Women should ask *ahead of time* if stools will be used and wear longer skirts or pants if they are.

Both sexes when sitting on bar stools for any length of time will be less comfortable due to the lack of arm rests, soft seats, and lower back support. It's natural in such a situation to want to hook ankles, slouch, squirm, and cross or splay or swing legs. Try to avoid all that.

When seated on bar stools, keep your hands clasped in your lap and avoid reaching down to

retrieve notes or water bottles from a lower coffee table. No sense risking toppling off your stool.

If you have issues with back pain, or even if you don't, ask the host to make sure there are chairs on the stage for speakers or panelists who have to wait to speak. You do not want to have to stand for 5, 10, or 15 minutes while someone else is speaking... it's distracting for the audience, disrespectful of you, as well as uncomfortable.

If the seating involves bar stools, take some Advil or Aleve 30 minutes before you are scheduled to appear.

## 11. Stop Playing Defense

**Don't cross your arms.** According to the Peases, "If you feel defensive, you're likely to cross your arms across your chest. But if you simply cross your arms, you'll begin to experience defensive feelings."

In other words, closing off your body not only makes you look defensive, but also makes you *feel* more defensive. Crossed arms, gripped elbows, and even clasped hands are all versions of "hugging yourself," something typically done when seeking comfort in stressful situations.

###

DISCLAIMER: I've made every body language mistake described above... well, except the things involving high heels and skirts. Some of my transgressions were epic. Do as I say, not as I do. You're better at this than me, or will be very soon if you follow these tips.

# PERSUASIVE ADVERTISING

*Evidence-based principles*

J. Scott Armstrong  
The Wharton School  
University of Pennsylvania

with collaboration from  
Gerry Lukeman  
Chairman Emeritus, Ipsos ASI

and

Sandeep Patnaik  
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palgrave  
macmillan

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## Appendix G

# Management presentations: An evidence-based checklist

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The following checklist relates to making persuasive oral presentations for problem solving. Many of the guidelines draw upon the principles in *Persuasive Advertising*. [The principles are denoted in brackets]. This list is provided in a checklist format on AdPrin.com.

### Structuring the talk

1. *Agenda*. Make an agenda for the talk. If appropriate, send the agenda to the client before the talk.
2. *Use only strong arguments*. Avoid weak arguments as it adds complexity and because people tend to take an average of the strength of the arguments. [7.1.1.]
3. *Focus on positive arguments*. Instead of showing what is wrong, show how you would improve upon the situation. [7.1.2.]
4. *Provide objective support*. (Do not say “I think,” “I believe,” “We are confident,” etc.) Present evidence, not emotion or opinions. [3.1.1.] Use independent third-party support; describe results from prior research studies even if based on small samples. [6.3.1., 6.3.2.]
5. *Use indirect conclusions for “new” conclusions*. Build the case so that the audience can infer the conclusions on their own when a conclusion is new or challenging. Do not force conclusions on them. But if the conclusion is not obvious, or there is not enough time to reflect, or the audience already agrees, provide explicit conclusions. [5.9.2.]
6. *Use two-sided arguments*. Describe risks and limitations and explain how they can be handled. [5.8.1.] Put the favorable arguments first or alternate favorable and unfavorable ones. [5.8.2.]
7. *Use a single theme – or two – to tie the talk together*. [7.9.1.]

### Preparing for the talk

8. *Rehearsal*. If the talk is important, ask one or more people to act as if they were the clients and present your talk to them. Be sure that they stay in their role.
9. *Dress*. Dress to show respect for the client. An added advantage is that formal dress adds credibility. [5.6.2.]
10.  *Casting*. If working in a group, select a spokesperson who sounds credible and who is similar to the client (e.g., in accent and manner). Ask the others to sit among the clients. [5.6.1., 5.6.2., 5.6.3.]

11. *Handouts.* Where appropriate, provide handouts such as an agenda and space for comments. Avoid detailed handouts as they can distract.
12. *Slack.* Include slack time. For example, if you have 20 minutes available, plan the talk for 15 minutes. Make some parts of the talk optional, and do not show these on the agenda.

## Presenting the talk

### Organization

13. *Purpose.* Describe the objectives of this talk and what actions steps will be considered.
14. *Introduction.* Present the most important things first. [9.1., 10.1.] Focus on action-oriented recommendations and benefits. [6.17.1., 6.17.2., 6.17.3.] Attention is at its peak here. Do not distract with stories or jokes. [8.8.2.]
15. *Agenda.* Present an outline of the presentation so your audience will know where you are headed. Show timing, such as “the last ten minutes will be available for questions.” [9.4.1.]
16. *Structure.* Build the presentation around the recommendations.
17. *Show support for each recommendation.* [6.3.1., 6.3.2.]

### Visuals

18. *Visual aids.* Visual aids (e.g., PowerPoint) can help people follow certain aspects of a talk. This is especially valuable when showing designs, presenting lists, and summarizing data. However, for complex material, audio-visual information is difficult to comprehend. [Sections 9 and 10.] The material must be organized so that the different communication modes reinforce one another. For example, you do not want people reading ahead of you, so either roll out each point as you discuss it on a slide, or use many simple slides.
19. *Use key words as bullet points.* Keep the visuals simple so that the oral presentation keeps pace with the written information. [9.4.1.] This helps to retain attention and gives you a reason for being there -- to explain each point.
20. *Keep overheads simple.* Eliminate anything that does not contain information. [7.9.2.] This means no wallpaper. If something on a slide is not absolutely necessary, remove it.
21. *Use high contrast for text.* Make it easy for viewers by using high contrast between the text and the background. Use black on white. Do not write on illustrations or on wallpaper. Do not use colored fonts [9.5.2.]
22. *Use sans serif font to enhance legibility.* [9.5.1.]
23. *Use color only when it has a meaning.* For example, “We recommend that you make the product available in the following colors.” [7.11.1.] When you do use color, explain the meanings in words because some people are colorblind. In addition, people might make B&W copies of the slides.
24. *Use exhibit titles if the conclusions are not obvious.* Provide an informative title for exhibits if the conclusions from the data are not immediately obvious or if the conclusion is already widely accepted by your audience. [5.9.1., 5.9.2.]

It is best if you can present the evidence and let the listener draw the proper conclusion.

25. *Contingency plan.* If you use a presentation program such as PowerPoint, plan the talk so you do not lose time setting up. And be prepared to talk without showing the visuals, so have a hard copy of the slides for yourself. Fortunately, audio is as effective as audio-visual for much material. [Sections 9 and 10.]

### Speaking

26. *Use one speaker.* It is easier to manage the presentation if you have only one speaker. If you need a second speaker, the lead speaker should be responsible for timing and questions. [7.12.1.]
27. *Accept clarification questions.* Restrict complex questions to clarification during the first part of the presentation. In your introduction, ask the client (audience) whether that is acceptable, stating that this is how you have scheduled the timing for your talk, and that you have reserved time for questions near the end.
28. *Post serious questions.* If questions other than clarification ones arise during the presentation, summarize them (and perhaps write them so all can see). Say that you will address them later in the talk or after the talk. This will help to ensure that you complete your talk and the talk will look coherent. [7.12.1.]
29. *Use a moderate pace.* Talk at a moderate pace if you have excellent content. [10.4.2.] For material that is known by the audience, you can speak up to 30 percent faster than the normal pace and still be understood. [10.4.2.] Interestingly, fast talkers are regarded as more competent, truthful, fluent, energetic, enthusiastic, and persuasive, but a fast pace does not work well with complex material.
30. *Use a calm, reasonable tone.* However, the speaker should show energy and interest and use forceful language. [7.5.1.]
31. *Pause before key points.* Pauses of two seconds are recommended to create some interest in what follows. [10.4.3.]
32. *Pause after key points.* Pauses allow people to reflect on what was said. [10.4.3.]
33. *Check for understanding.* Ask whether the audience needs clarification. This also helps to gain their involvement. [5.11.5]
34. *Ask questions that you will answer.* To gain attention, raise a question before you make a key point. Do this occasionally, and only when you have a good answer. [6.12.1.]
35. *Make eye contact.* This raises interest and increases trust. Talk to people in the audience who are good at listening. If you are being filmed, look at the camera. [10.1.3.]
36. *Avoid humor.* If you have strong arguments, be careful about humor. Humor is seldom appropriate for a high-involvement process as it detracts from thinking about the arguments. It may also steal the spotlight from the recommendations. However, gentle humor that is relevant to the message may help to reinforce the point. [8.8.2.]
37. *Repeat key points by changing the way you make each point.* Space the repetition. Avoid high repetition in situations where people are paying attention. [6.13.3.]



## Ending the meeting

38. *Orient the questions.* Provide guidelines for the questions. In particular, orient them around the proposed action steps. Say, for example, "What do you need to know about recommendation #2 before taking action?"
39. *Listen.* When people ask questions, the key thing is to listen and to understand. You want to increase the amount of time they spend talking by reducing the time you talk. Normally, it is the custom to make suggestions in the form of questions, so in most cases you do not need to provide an answer on the spot. "Thank you" is often sufficient. If people really need an answer, they will let you know. If the issue is complex and you are uncertain, rephrase it to ensure that you understand.
40. *Do not solve problems during the session.* If you are not sure how to answer something, do not make things up on the spot. Check to make sure that you understand the question and tell the questioner you will get back to them.
41. *Summarize.* After all of the questions have been asked, summarize them and say that you plan to do address them and get back to the client.
42. *Go for the close.* Go back to your recommendations and try to gain agreement on action steps. [6.17.1., 6.17.2., 6.17.3.]
43. *Use the "rejection and retreat" approach.* If a recommendation is not accepted, raise the possibility of taking a small relevant action step.
44. *Leave a written report (or promise one).* The written report should be in prose. A week from now, the overheads will not be intelligible to others.

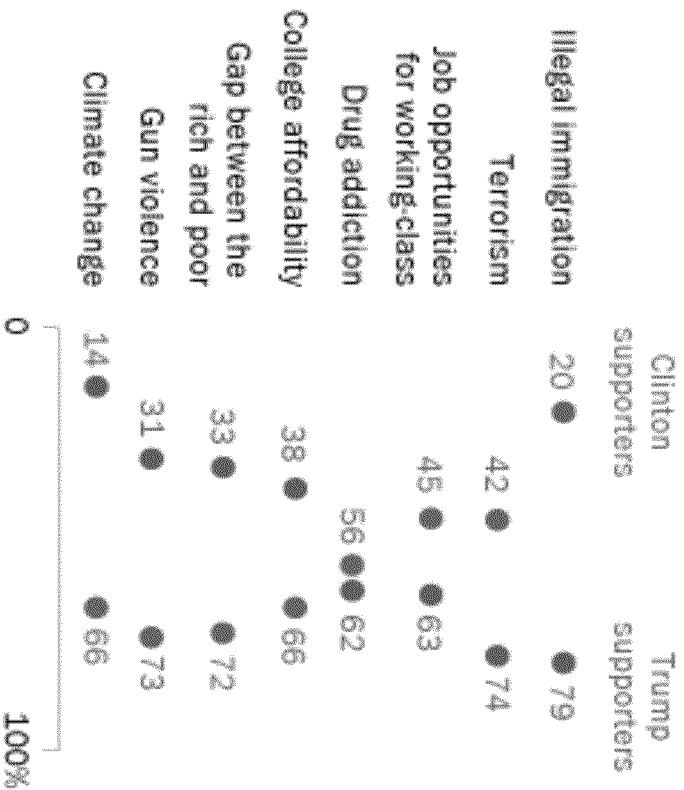
## After the talk

45. *Send a summary of action steps.* Send a summary of the key issues and of the action steps agreed on as a result of the talk. Describe who will do what by when.
46. *Inform the client about progress.* Follow up with the results of your action steps. If you made changes as a result of the meeting, tell the client about them.

**Acknowledgement:** Andrew Abela (author of *Advanced Presentations by Design*) and Lisa Warshaw (director of the Wharton Communication Program) helped in the development of this oral presentation checklist.

## Clinton, Trump voters sharply diverged on seriousness of an array of problems

*% of voters who said each is a 'very big problem' in the country today ...*



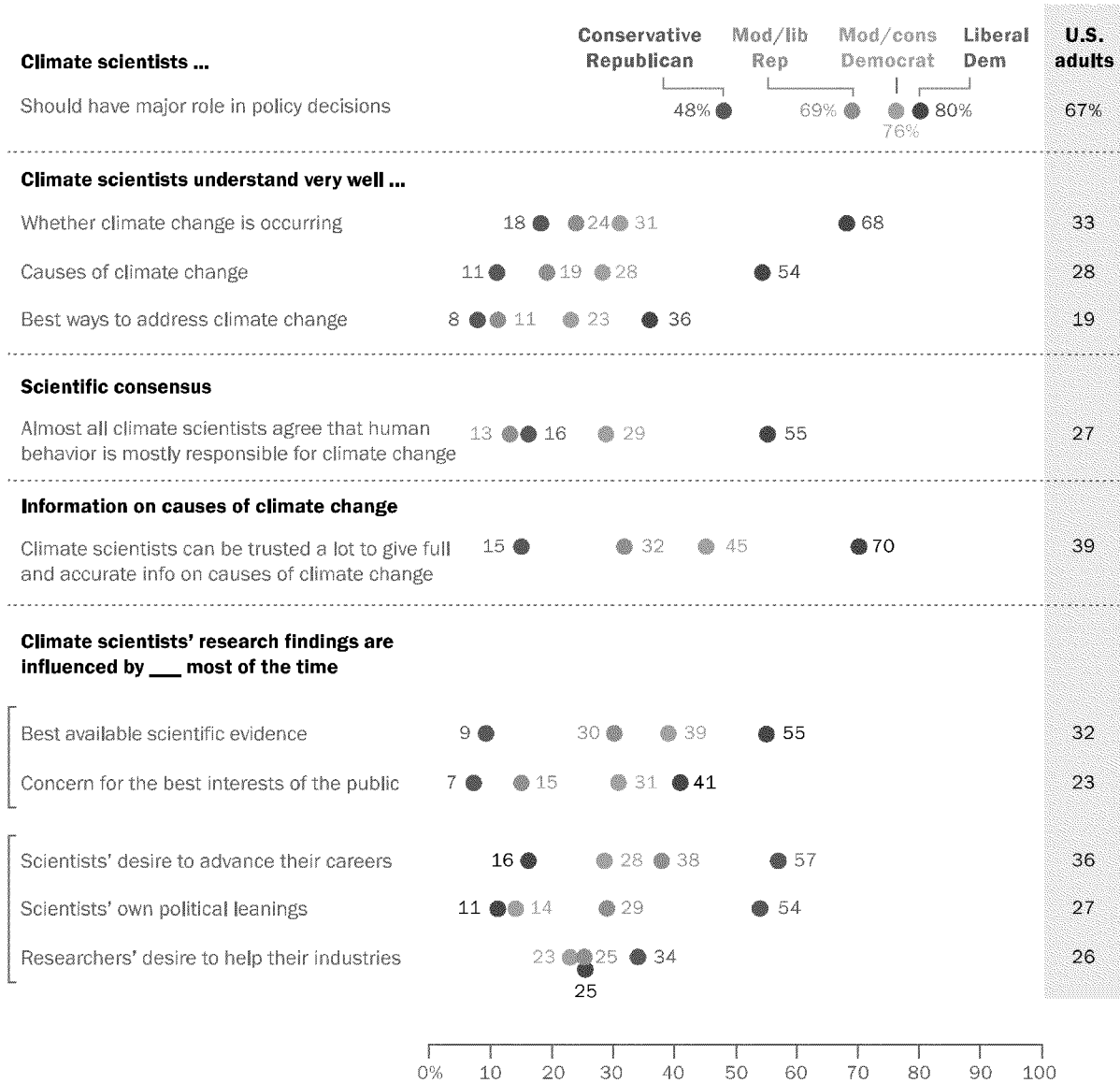
Note: Based on registered voters who voted before Election Day or planned to vote.

Source: Survey conducted Oct. 25-Nov. 8, 2016.

PEW RESEARCH CENTER

## Trust in climate scientists is low among Republicans; considerably higher among liberal Democrats

% of U.S. adults in each group who say the following about climate scientists



Note: Republicans and Democrats include independents and other non-partisans who "lean" toward the parties. Respondents who do not lean toward a political party and other responses on each question are not shown.

Source: Survey conducted May 10-June 6, 2016.

"The Politics of Climate"

PEW RESEARCH CENTER





*The 10 Most Persuasive Words  
in the English Language*

Discover

Easy

Free

Guarantee

Love

Money

New

Results

Save

You

**Message Development Check List**  
The Heartland Institute

## **1. Preliminary considerations**

Before formulating the message, you must take into account four things:

### **A. Who is the audience?**

Who is the most important audience you wish to reach?  
What do you know about them?  
What are the best ways to influence their opinions?

### **B. How much time do you have?**

Is this a long-term educational program or crisis management?  
Start now on a message campaign that will “start” in 6 months.

### **C. Who are likely allies and opponents?**

They need to be named, contacted, ideally given a “heads up”  
How can they help attract attention to the study?  
How can they be “neutralized” as voices in the debate?

### **D. What else is going on?**

Your message must be timely, it must connect to something in the news  
What other issues are related to this one which compete or alter it?  
How can these other issues or events be used as hooks?

## **2. To be effective the message must be...**

### **A. Factually defensible**

What are the three numbers that are most important?  
Who are the three experts you can say agree with you?

### **B. Personally relevant**

What is the most widely shared value that this message affects?

## **Message Development**

### **Page Two**

How does it affect this value?  
What can the listener do to affect this value?

#### **C. Connect emotionally**

Emotional appeals typically have one or more of the following six characteristics:

Reciprication (fairness)	Consistency (cognitive dissonance)
Social validation (peer pressure)	Liking (sympathetic spokesman)
Authority (Marcus Welby, M.D.)	Scarcity (limited time offers, exclusivity)

#### **D. Simple enough to make sense**

Most people cannot follow an argument with more than three steps.  
Focus on defining the problem and proposing the solution, not explaining the solution.  
Humor, analogies, and anecdotes are essential to simplifying an issue.  
Graphics and illustrations are critical; bar charts are best.

#### **E. Quotable and memorable**

Develop three one-liners that capture the main messages.  
Make sure all spokespersons practice delivering these lines.  
Alliteration and vivid images make a statement memorable – Jesse Jackson  
Give media photo-ops; do them yourself and send with media kit.

#### **F. Repeated at least seven times**

A typical sale requires at least seven contacts  
Use consistent language, phrasing, messengers, and delivery devices to provoke memory  
“Stay on message” during interviews and speeches

### **3. Following up on the message**

An effective campaign includes feedback loops with key audience members and an audit system for tracking inputs and outputs:

- # What documents were created, who received them, and when
- # What events or meetings took place, who attended them



**Message Development**  
**Page Three**

- # What follow-up calls, letters, or other contacts took place, by whom and when
- # What media coverage resulted
- # Reactions from members of target audience were tallied, analyzed, and compared to expectations.

###



Testimony before the U.S. House of Representatives  
**Committee on Science, Space, and Technology**

Hearing:

The Environmental Protection Agency's  
Process for Evaluating and Using Science During Its Regulatory Decision Making Activities

**Richard B. Belzer, Ph.D.**

February 7, 2017

Chairman Smith, Ranking Member Johnson, and Members of the Committee, thank you for the opportunity to testify today concerning the Environmental Protection Agency's use of science for regulatory decision-making. My testimony is informed by 30 years of experience with environmental science and economics that began in earnest during my doctoral research at Harvard University.

## I. Background

After completing my dissertation, in 1988 I joined the Office of Information and Regulatory Affairs at the Office of Management and Budget as a staff economist. I served five years under the administrations of Presidents Reagan and George H.W. Bush and five years under the administration of President Clinton. My job was to review Regulatory Impact Analyses prepared by Federal agencies in support of regulations expected to have annual costs exceeding \$100 million. Many of the RIAs I reviewed concerned regulations with estimated costs of many billions of dollars. I reviewed RIAs from several agencies including the Food and Drug Administration, the U.S. Departments of Agriculture, Commerce, Interior and Labor, but mostly the Environmental Protection Agency. Because of my dissertation work on the potential use of deposit-refund systems for managing hazardous waste, within EPA I focused on major rules developed by the Office of Solid Waste and Emergency Response and the Office of Water.

The principles I followed during my reviews were the same under all three administrations: provide OMB officials and White House staff the most objective estimates possible of benefits, costs and other effects. My job was strictly analytical. Both Executive Order 12291, signed by President Reagan, and Executive Order 12866, signed by President Clinton, clearly stated a preference that the net social benefits of federal regulation be maximized. But this objective is infeasible if decision-makers lack unbiased estimates of benefits and costs.

I left OMB in 1998, and after a stint as a visiting professor, in 2001 I opened a private consulting practice. My testimony today is not on behalf of any client, past or present.

## II. Fundamental Characteristics of EPA Risk Assessment

### A. EPA risk assessments are, by design, not objective

I learned during my doctoral research that EPA risk assessments did not objectively characterize risk. Rather, they were described as “conservative.”<sup>1</sup> This term is misleading because it does not make clear what it is being “conserved.” EPA risk assessments are neither “conservative” nor liberal,<sup>2</sup> but they are intended to approximate something close to the worst case. I have reviewed some risk assessments in which risk estimates were either practically or theoretically impossible.

You need not take my word for it. In 2004, the EPA Science Advisor published a report on its risk assessment practices. At the time, EPA faced a chorus of criticism alleging that the Agency grossly exaggerated risks. EPA defended its practices by stating as follows:

EPA risk assessments tend towards protecting public and environmental health by preferring an approach that does not underestimate risk in the face of uncertainty and variability. In other words, EPA seeks to adequately protect public and environmental health by *ensuring that risk is not likely to be underestimated.*<sup>2</sup>

In plain English, this means that whenever there is scientific uncertainty, EPA errs on the side of *overstating* human health risk. Further, when characterizing health risk in a population, EPA looks for individuals who faces the highest potential risk and uses those persons to describe the population.

These are not sensible practices. If we were characterizing the risk to Americans posed by peanuts, we would not say that the risk of death from anaphylactic shock from peanut ingestion is 50%, even though it is conceivable that there is someone for whom this is true. Similarly, if we were concerned about obesity in the United States, we would not say that Americans weigh 1,036 pounds – the reputed weight of the heaviest person in the United

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<sup>1</sup> Another descriptor EPA uses for its risk assessments is “protective,” but that term also begs the question what is being protected. Precautionary efforts to protect the public from risk in one area necessarily exposes them to risk in another.

<sup>2</sup> U.S. Environmental Protection Agency Office of the Science Advisor (2004), p. 11 (emphasis in original).

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States.<sup>3</sup> When thinking about the health risk posed by PM2.5, we do not assume that *everyone* is elderly, infirm, or suffers from chronic obstructive pulmonary disease.

We know not to assume the worst when we make routine decisions in almost every avenue of life. For some reason, however, we do not practice common sense in environmental health policy. And it is EPA policy not to use common sense. Quoting again from the 2004 report of the EPA Science Advisor (p. 13):

[S]ince EPA is a health and environmental protective agency, EPA's policy is that risk assessments should not knowingly underestimate or grossly overestimate risks. This policy position prompts risk assessments to take a more "protective" stance given the underlying uncertainty with the risk estimates generated.

In plain English, this means EPA will strive for the highest estimate of risk that does not bring upon the Agency unbearable ridicule. You simply cannot rely on EPA risk assessment to give you an unvarnished perspective. When given an EPA risk assessment, all you know is risk can't be any worse.

These practices undermine responsible regulatory decision-making at least three ways.

First, they needlessly and irresponsibly scare the public about the hazards of life. Exaggerating risk is an excellent tactic for gaining the most attention from Congress, the White House, the press and the public, and for increasing one's budget and delegated legislative authority to regulate.

Second, they undermine the responsible estimation of benefits from regulation. If I'm given a worst-case risk assessment, I cannot use it to estimate public health benefits. I need, at a minimum, a *central tendency* estimate, like an average or median. Ideally I would have much more information than this, but I can use a central tendency estimate risk estimate to approximate health benefits to the population. I can't do anything useful or informative with a "conservative" or "protective" risk estimate.

Third, it usurps the authority of the EPA Administrator, who is charged by Congress with making oftentimes hard choices. When EPA staff give the Administrator an exaggerated risk estimate, the Administrator cannot make a fully informed decision. He faces extraordinary pressure to ratify the policy preferences the staff have hidden away. If the Administrator learns that EPA staff are sandbagging him and looks elsewhere for more objective information, he will be accused of "ignoring science." Indeed, EPA staff produce so-called "conservative" risk

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<sup>3</sup> My source for this is Wikipedia, which though often inaccurate is accurate enough for present purposes.

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assessments to tie the Administrator's hands. This enables Agency staff to make critical policy decisions secretly through the back door.

B. Nontransparency about uncertainty

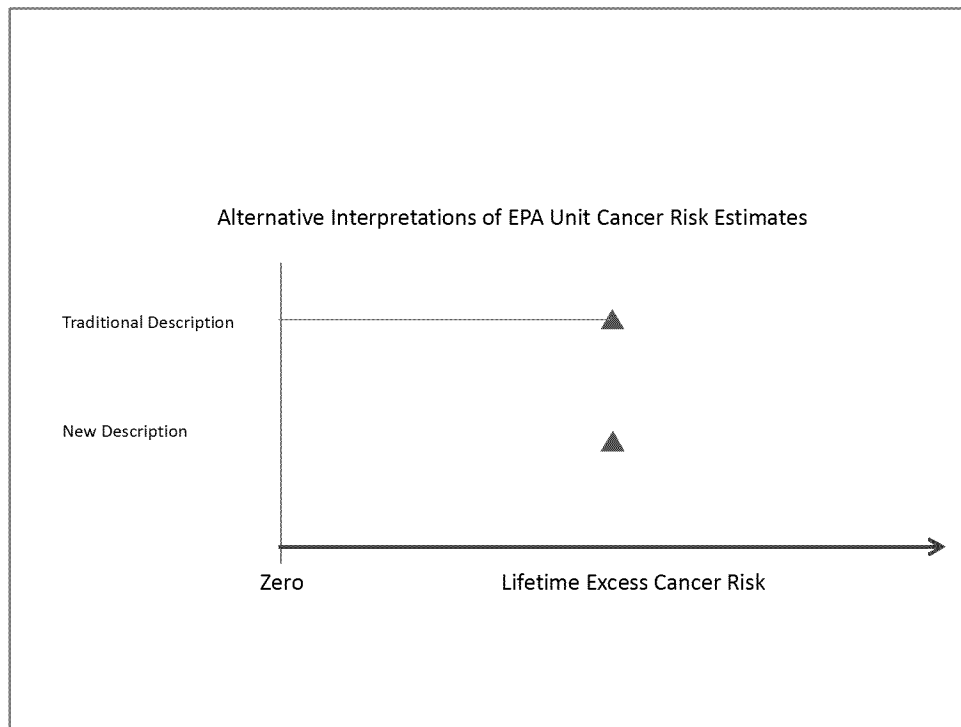
Much of EPA risk assessment inevitably consists of extrapolating to humans from animals, such as rats and mice, and from very high exposure levels in a laboratory to comparatively very low exposures in the environment. These may be reasonable practices for some purposes, but often they are not reasonable at all. Rats and mice are not little people, and effects that occur when biological systems are overloaded, as they are by design in laboratory experiments, generally are not expected to occur under normal conditions.

When I began reviewing EPA cancer risk assessments in the mid-1980s, the Agency's conventional practice was to report risk estimates in a way that accounted for these key uncertainties. A common way this was done was to say, "We estimate lifetime excess cancer risk to be as high as  $x$ , but it could be as low as zero." And zero was understood to be the best risk estimate if, for example, extrapolating from rats or mice was biologically incorrect, or if there was a human exposure threshold below which carcinogenesis was not reasonably expected to occur. About 20 years ago, EPA abandoned the practice of qualifying its cancer risk estimates this way. Now, EPA reports them in ways that do not reveal uncertainty.

The difference between these two approaches can be seen in Figure A below. The traditional description of a cancer risk estimate told decision-makers and the public that there was substantial uncertainty, and that the true (but unknown) risk could be as low as zero. The modern description does not communicate this uncertainty.

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Figure A



### III. Fundamental Characteristics of EPA Safety Assessment

A lot of what the public understands to be “risk assessment” actually isn't risk assessment at all. The correct term is “safety assessment” because its purpose is to identify a “safe” level of exposure, not to estimate risk. But a safety assessment isn't science; it's a policy decision draped in scientific clothing. The reason it isn't science is science has no definition for “safety.” Science is about ascertaining facts, not divining policies or making philosophical judgments.

In EPA world, the primary example of a safety assessment is the Reference Dose, often abbreviated “RfD.”<sup>4</sup> If you are exposure below the RfD, you're said to be “safe.” Except in truly extraordinary cases, you are likely to agree because the methods used to derive Reference Doses are very, very “conservative.”

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<sup>4</sup> The Reference Concentration (RfC) is an analogous tool for the inhalation pathway.

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- A. EPA safety assessments are, by design, controlled by undisclosed policy judgments

Nonscientific considerations are spread throughout the RfD process. To see this, let's look at EPA's definition:

An estimate (with uncertainty spanning **perhaps** an order of magnitude) of a daily oral exposure to the human population (including **sensitive subgroups**) that is **likely** to be without an **appreciable** risk of **deleterious** effects during a lifetime. It can be derived from a **NOAEL**, **LOAEL**, or **benchmark dose**, with **uncertainty factors** generally applied to reflect limitations of the data used. Generally used in EPA's noncancer health assessments.<sup>5</sup>

I have highlighted in **bold** terms within the definition that are substantially or exclusively policy, not science. It's useful for Members to understand that EPA acknowledges that a Reference Dose is uncertain by a factor of 10. But wait. EPA says Reference Doses are uncertain by *perhaps* a factor of 10. Does that mean they might be uncertain by a factor of 100? A factor of 1,000? We don't know.

What is a "sensitive subgroup"? Is a subgroup containing a single person in the United States too small? How about 100 persons? How large must it be? One percent of the U.S. population – clearly a small fraction – means 3.25 million people. How sensitive must these people be? Twice as sensitive? Ten times as sensitive?

"Likely" means a probability greater than 50%. To what does that probability apply? According to the definition, it applies to risk of "deleterious" effects? How bad must they be to qualify? They must be "appreciably" "deleterious." Only a lawyer could tell you what it means to experience "an appreciable risk of deleterious effects." There are no scientific answers to these questions; only policy judgments. When lawyers rule, science does not.

Ambiguity in the definition of the Reference Dose goes on and on and on. It's no wonder that an EPA Administrator, trying to play it straight, does not know how to interpret this information.

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<sup>5</sup> U.S. Environmental Protection Agency (2017). There are also Reference Dose definitions that apply to different durations of exposure (e.g., "acute," "subchronic," "chronic") and pathways (e.g., "oral").

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A. Nontransparency about uncertainty

Therefore, it's for good reason that the EPA Administrator may not know how to use a Reference Dose to inform decision-making. Let's assume for simplicity that uncertainty is exactly a factor of 10. Figure B below shows many ways the RfD might be interpreted.

Row 1 shows what EPA conventionally reports to the public.<sup>6</sup> It's what is called a "point estimate," meaning that no uncertainty about the estimate is communicated. Row 2 shows what the EPA staff author of the RfD probably intends; uncertainty lies *above* the RfD. But because this information is poorly communicated, and EPA Administrators have limited knowledge about the derivation process and are inclined to be worrisome when public health is involved, they may think the 10-fold uncertainty contained in the definition is *below* the RfD. Rows 4-6 show other ways this 10-fold uncertainty might be understood, and none of these interpretations is necessarily incorrect.<sup>7</sup>

While it is sometimes possible to use an EPA *risk* assessment to estimate the benefits of a regulation, it is impossible to use an EPA *safety* assessment for that purpose. The definition of the Reference Dose tells us nothing about how much risk reduction is obtained by any reduction in exposure. That means we can't estimate health benefits.

Finally, I want to add that nothing I have just testified to is new. On behalf of OMB, in 1990 I wrote a chapter for the *Regulatory Program of the United States Government*. Most of that chapter, titled "Current Regulatory Issues in Risk Assessment and Risk Management,"<sup>8</sup> remains valid 27 years later.

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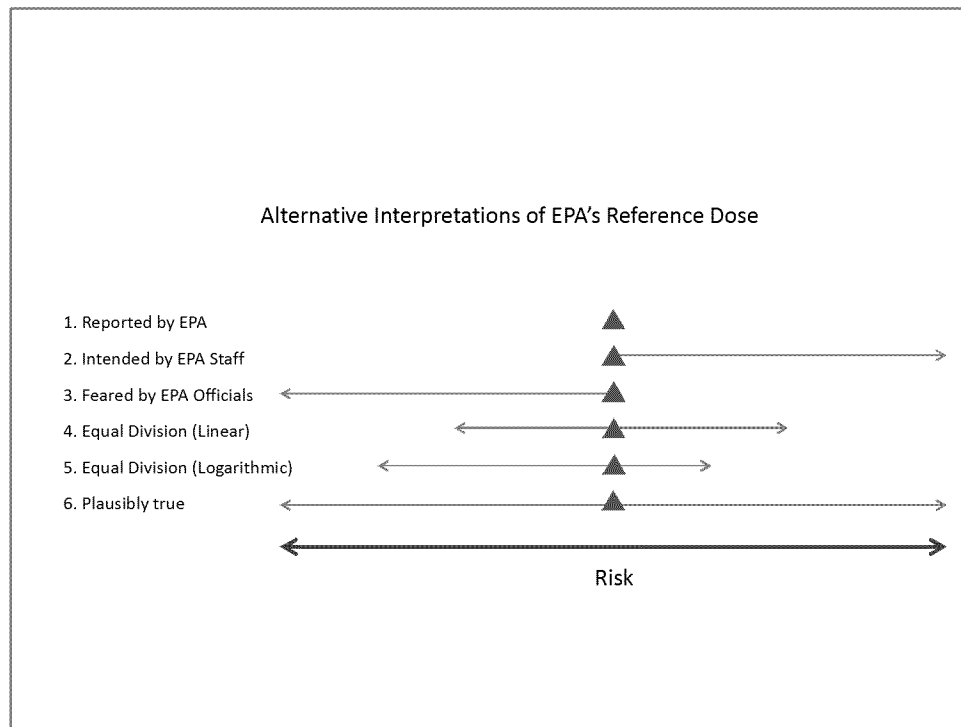
<sup>6</sup> U.S. Environmental Protection Agency (2016).

<sup>7</sup> Alternative interpretations of different players in the drama are described by Felter and Dourson (1998).

<sup>8</sup> Office of Management and Budget (1990).

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Figure B



#### IV. Implications for Benefit-Cost Analysis

EPA uses risk assessments as inputs to its benefit-cost analyses. “Conservatism” in risk assessment is therefore propagated into the Agency’s estimate of regulatory benefits.<sup>9</sup> So, all other things being equal, EPA will not be “knowingly underestimate” benefits. But that means they *will* overestimate benefits. Whether they “grossly” overestimate benefits depends on how “conservative” the risk assessment is, whether EPA has disclosed enough detail to permit third parties to figure it out, and whether there is a venue in which errors can be corrected. Sometimes, a single “conservative” assumption is enough.<sup>10</sup>

<sup>9</sup> This was the key point in Office of Management and Budget (1990), and it is the reason why OMB guidance on benefit-cost analysis requires agencies to estimate benefits objectively. See Office of Management and Budget (2003). OMB lacks the tools to enforce this requirement.

<sup>10</sup> EPA’s “central estimate” of the present value of benefits from regulations promulgated under the Clean Air Act from 1990 to 2020 at \$12 trillion. See U.S. Environmental Protection Agency (2011). Estimated annual benefits, \$1.3 trillion, are 7% of U.S. Gross Domestic Product. Almost all benefits vanish if EPA’s assumed causal relationship between low

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A typical Agency benefit-cost analysis includes benefit estimates derived from these unreliable inputs. You should not be surprised if benefit estimates in these analyses are highly overstated. And you should pay no attention to OMB's Reports to Congress on the benefits and costs of federal regulation.<sup>11</sup> OMB does not report objective benefit or cost estimates, or their own estimates based on independent review. OMB merely summarizes what the agencies said in their published benefit-cost analyses, even if the OMB staff know that these estimates are wrong. Congress faces a similar problem with respect to reports submitted to the Comptroller General pursuant to the Congressional Review Act (5 U.S.C. § 8012(a)(1)). These reports are generally unreliable, and GAO lacks the expertise and time to critically review them.

## V. Implications for Congress

Consistent with the policy set forth in the 2004 EPA Staff Paper, wherever you see a nonscientific, policy term in the definition of a putative scientific concept such as a risk or safety assessment, you can be confident that EPA staff have chosen to be “conservative” – that is, they have made assumptions that do not “knowingly underestimate or grossly overestimate” the factor of interest. Risk and safety assessments are constructed using multiple “conservative” assumptions. So, while we can be quite sure that actual cancer risk is likely to be less than an EPA cancer risk estimate, and that exposures to noncarcinogens below the Reference Dose poses essentially zero risk, these risk and safety assessments are unreliable for use in benefit-cost analysis.<sup>12</sup>

The House recently passed H.R. 26, the “Regulations from the Executive in Need of Scrutiny Act of 2017.” This is not the time or place to debate the merits of this bill. However, if the bill were enacted into law, it is certain that Members will be poorly informed about the benefits and costs of major regulations intended to reduce human health risk. Benefit estimates based on “conservative” EPA risk assessments will be exaggerated and unreliable, so Members who rely on such estimates will be misled.

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PM2.5 concentrations and premature mortality is relaxed. Unsurprisingly, EPA's causality assumption is controversial. See, e.g., Cox, Popken and Ricci (2013).

<sup>11</sup> These Reports are mandated by the Regulatory Right-to-Know Act of 2000, Pub. L. 106-554 (title VI, Sec. 624; 114 Stat. 2763A-161) The most recent draft Report to Congress was published in draft form on December 23, 2016. See Office of Management and Budget (2016).

<sup>12</sup> A group of 19 experts recently published a listicle identifying 10 things non-experts should look out for in benefit-cost analysis. Number 6 on the list warns against relying on risk assessments that are not transparent or objective. See Dudley, Belzer, Blomquist, Brennan, Carrigan, Cordes, Cox, Fraas, Graham, Gray, Hammitt, Krutilla, Linquiti, Lutter, Mannix, Shapiro, Smith, Viscusi and Zerbe (2017).

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Probably the most effective way Congress could improve the quality of the scientific information on which regulatory decision-making depends is to require all agency science and economics to adhere to the principles set forth in OMB's Information Quality Guidelines.<sup>13</sup> These Guidelines have been in place for 15 years, but there is little to show for it because agencies simply do not comply. And the main reason they do not comply is no one has standing in federal court to compel them to do so. Agency performance would improve dramatically if this loophole in the law were corrected.<sup>14</sup>

Thank you for the opportunity to testify today. I look forward to answering any questions you might have.

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<sup>13</sup> Office of Management and Budget (2002).

<sup>14</sup> The Information Quality Act (2000), , 114 Stat. 2763A–153-154, says the government must “establish administrative mechanisms allowing affected persons to *seek and obtain* correction of information maintained and disseminated by the agency that does not comply” with OMB guidelines (emphasis added). Agencies have implemented the law so that the public may *seek* correction all it wants, but cannot *obtain* them.

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At What Cost? Examining the Social Cost of Carbon

Kevin D. Dayaratna, Ph.D.

Senior Statistician and Research Programmer - The Heritage Foundation

1. The Social Cost of Carbon (SCC) is a tool used by policymakers to quantify the economic damages associated with carbon dioxide emissions. In my work at The Heritage Foundation, we have rigorously examined two of the three models that the Obama Administration's Interagency Working Group (IWG) used to estimate the SCC. This work has been published both at The Heritage Foundation as well as the peer reviewed literature.
2. The models are extremely sensitive to very reasonable changes to assumptions. As a result, these models can be manipulated to produce a wide range of costs.
3. The models are based on projections 300 years into the future. It is difficult to envision what the country would look like decades, let alone centuries into the future. Upon changing this time span to the less unrealistic time horizon of 150 years into the future, we found that the estimates plummet by as much as 25% in some instances.
4. The Administration's analysis of the SCC assumes an outdated climate sensitivity specification based on a paper published ten years ago in the journal *Science*. This specification is no longer defensible. We have re-estimated the SCC using more up-to date distributions and found reductions of up to nearly 200%. The use of this outdated distribution thus artificially inflates the calculated value of the SCC.
5. The Office of Management and Budget stipulated in Circular A-4 that a 7% discount rate be used as part of cost-benefit analysis. The Administration's IWG ignored this recommendation. We reran the models using a 7% discount rate and found that the SCC drops by over 75% when compared to a 3% discount rate.
6. Under a variety of assumptions, including those made by the IWG itself, one of its three predictive models shows that the SCC has a non-trivial probability of being negative. This would suggest that there are actually benefits of CO2 emissions. Under some very reasonable assumptions, this probability (~70%) can be quite substantial.
7. The GHG regulations implied by the IWG's use of these models would result in significant damage to the economy. Our analysis finds that, by 2035, the country would experience an average employment shortfall of 400,000 lost jobs, a total loss of income over \$20,000 for a family of four, a 13-20% increase in electricity prices, and an aggregate \$2.5 trillion loss in GDP.
8. In addition to the above damages, these regulations would result in negligible environmental benefits (<0.2°C temperature mitigation and less than 2 cm of sea level reductions).

# BACKGROUND

No. 2860 | NOVEMBER 21, 2013

## Loaded DICE: An EPA Model Not Ready for the Big Game

Kevin D. Dayaratna and David W. Kreutzer, PhD

### Abstract

The Environmental Protection Agency (EPA) uses three statistical models of the environment and economy, called integrated assessment models (IAMs), to determine the value of the social cost of carbon (SCC), defined by the EPA as the economic damage that a ton of CO<sub>2</sub> emitted today will cause over the next 300 years. This study analyzes the IAM that generates the intermediate EPA results (the DICE model) and finds it flawed beyond use for policymaking. In addition to more fundamental problems outlined by others, we find that reasonable changes in a few assumptions lead to order-of-magnitude changes in estimates of the SCC.

The “social cost of carbon” (SCC) is a metric used by the Environmental Protection Agency (EPA) to quantify the economic impact associated with carbon emissions.<sup>1</sup> The EPA uses three statistical models to estimate the SCC: FUND (Climate Framework for Uncertainty, Negotiation and Distribution), DICE (Dynamic Integrated Climate-Economy), and PAGE (Policy Analysis of the Greenhouse Effect).<sup>2</sup> Although policymakers often refer to the results generated by these models to justify imposing burdensome regulations on the energy sector of the U.S. economy, the fundamental assumptions underlying these models have a number of serious deficiencies.<sup>3</sup> In this study, we look at several of these shortcomings in the DICE model.

In particular, aside from the serious questions concerning the core of integrated assessment models (IAMs) in general, the DICE estimates of the SCC shift substantially with reasonable

### KEY POINTS

- Using the OMB-mandated discount rate that the EPA omitted reduces the 2020 estimate of the “social cost of carbon” (SCC) by more than 80 percent.
- An updated estimate of the ECS distribution (CO<sub>2</sub>'s temperature impact) reduces the 2020 estimate of the SCC by more than 40 percent.
- With an updated ECS distribution, a time horizon up to 2150, and with the omitted discount rate, the 2020 estimate of the SCC falls to \$4.03 from \$37.79—a drop of nearly 90 percent.
- Since moderate and defensible changes in assumptions lead to such large changes in the resulting estimates of the SCC, the entire process is susceptible to political gaming.
- While running the DICE model (and similar integrated assessment models) may be a useful academic exercise, the results at this time are nowhere near reliable enough to justify trillions of dollars of government policies and burdensome regulations.

This paper, in its entirety, can be found at <http://report.heritage.org/bg2860>

Produced by the Center for Data Analysis

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# BACKGROUND

No. 2897 | APRIL 29, 2014

## Unfounded FUND: Yet Another EPA Model Not Ready for the Big Game

Kevin Dayaratna and David Kreutzer, PhD

### Abstract

The Environmental Protection Agency (EPA) calls upon three statistical models, known as integrated assessment models, to estimate the value of the social cost of carbon, defined as the economic damage that one ton of CO<sub>2</sub> emitted today will cause over the next 300 years. In 2013, the Heritage Foundation's Center for Data Analysis (CDA) rigorously examined one of these models—the DICE model—and found it to be “flawed beyond use for policymaking.” This study examines another model the EPA uses—the FUND model. As with the DICE model, the CDA finds the FUND model to be extremely sensitive to assumptions. In fact, the FUND model is so sensitive to assumptions that at times it even suggests net economic benefits to CO<sub>2</sub> emissions. Consequently, the CDA researchers believe that both models are fundamentally unsound as a basis for justifying significant regulations of the American economy.

Unable to enact cap-and-trade legislation, even when he was supported by filibuster-proof majorities in Congress, President Barack Obama famously claimed, “Cap and trade was just one way of skinning the cat; it was not the only way.”<sup>1</sup> The primary alternative way to skin the cat is regulation by federal agencies, especially by the Environmental Protection Agency (EPA). A disturbing tool used to justify an increasing number of costly regulations is something called the social cost of carbon (SCC) that, for regulatory benefit-cost analysis, assigns a dollar cost to every ton of CO<sub>2</sub> emitted, which can dramatically tilt the cost-benefit calculus toward more expensive regulation.

### KEY POINTS

- Using the OMB-mandated discount rate of 7 percent, the Climate Framework for Uncertainty, Negotiation and Distribution (FUND) model suggests an average social cost of carbon (SCC) of essentially zero dollars, suggesting no net economic damages of global warming.
- Upon using the OMB-mandated discount rate in conjunction with updating the equilibrium climate sensitivity distribution, the model reduces its estimate of the SCC for 2020 by nearly \$34 a ton (a drop of more than 102 percent).
- The FUND model even allows negative estimates of the SCC. In some instances, the chance of the SCC's being negative is nearly 70 percent.
- With such great sensitivity to assumptions producing results all over the map, the FUND model may remain an interesting academic exercise, but it is almost certainly not reliable enough to justify trillions of dollars' worth of additional economic regulations with which to burden the economy.

This paper, in its entirety, can be found at <http://report.heritage.org/bg2897>

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# BACKGROUND

No. 3184 | JANUARY 19, 2017

## Rolling the DICE on Environmental Regulations: A Close Look at the Social Cost of Methane and Nitrous Oxide

Kevin D. Dayaratna, PhD, and Nicolas D. Loris

### Abstract

The U.S. Environmental Protection Agency utilizes three statistical models to quantify the social cost of carbon (SCC) and has also tried to quantify the costs of other greenhouse gas emissions, including methane and nitrous oxide. It then uses the results of these models, which artificially inflate the dollar value of abated GHG emissions, to justify costly global warming regulations. Previous Heritage Foundation research found that two of these models are far too sensitive to reasonable changes in assumptions for reliable use in policymaking. This study examines the social cost of methane (SCM) and the social cost of nitrous oxide (SCN<sub>2</sub>O) as determined by the DICE model and finds that the EPA's estimates of these statistics are just as unreliable as its SCC estimates. The next EPA Administrator should initiate a rulemaking process that eliminates from EPA cost-benefit analysis of regulatory actions any use of estimates of the social cost of greenhouse gas emissions until such time as more accurate and reliable models of those costs can be developed.

During his two terms in office, President Barack Obama claimed that global warming is an urgent problem and implemented costly policies in an effort to mitigate climate change.<sup>1</sup> This includes not only very public proposals like the Clean Power Plan and Paris Protocol, but also regulatory measures that are profound in their impact but less visible to the public. Chief among these are Environmental Protection Agency (EPA) estimates of the social cost of carbon (SCC); the social cost of methane (SCM); and the social cost of nitrous oxide (SCN<sub>2</sub>O), which have artificially inflated estimated benefits from energy and climate regulations.

This paper, in its entirety, can be found at <http://report.heritage.org/bg3184>

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### KEY POINTS

- The EPA uses unreliable estimates of the social cost of carbon (SCC); the social cost of methane (SCM); and the social cost of nitrous oxide (SCN<sub>2</sub>O) as benchmarks for regulatory impact analysis of energy and global warming policies.
- The integrated assessment models that the EPA uses are far too sensitive to assumptions to be used in devising economic regulations.
- The DICE model is based on an extremely unrealistic time horizon that sums damages over the course of 300 years.
- Current assumptions about the Earth's sensitivity to carbon dioxide emissions used by the EPA to estimate the SCM and SCN<sub>2</sub>O are based on outdated research. More recent studies regarding equilibrium climate sensitivity (ECS) distributions (CO<sub>2</sub>'s temperature impact) estimate significantly lower probabilities of extreme global warming.
- Updating the ECS distribution, as well as using the OMB discount-rate guidance that the EPA ignored, could reduce SCM and SCN<sub>2</sub>O estimates by over 80 percent.

# Action Plan for President Trump

## *Recommendations from The Heartland Institute*

### ENERGY & ENVIRONMENT

Adopting a Pro-Environment, Pro-Energy, Pro-Jobs agenda would produce millions of jobs and billions of dollars in income while more effectively protecting the natural environment than is currently being accomplished by a massive federal bureaucracy and intrusive regulations. Specifically,

1. Create a President's Council on Climate Change charged with cutting through the politics and bias that infected climate science and policymaking during the Obama administration and advising the President on what policies to repeal and what policies to pursue.
2. Withdraw from the Framework Convention on Climate Change and the more recent Paris Accord and end funding for the United Nations' biased climate change programs, in particular the Intergovernmental Panel on Climate Change (IPCC) and Green Climate Fund.
3. Approve Keystone XL and other pipelines blocked by President Obama.
4. Replace EPA with a Committee of the Whole of the 50 state environmental protection agencies. Those agencies already have primary responsibility for implementing environmental laws.
5. Withdraw and suspend implementation of the Endangerment Finding for Greenhouse Gases and the Clean Power Plan.
6. Withdraw implementation of the Waters of the U.S. rule.
7. Roll back unnecessary regulations on hydraulic fracturing and oil and gas exploration offshore and on federal lands.
8. Roll back recent EPA regulations on ozone, small particles, and other air pollutants that are based on discredited epidemiology and toxicology.
9. End the climate profiteering in America's energy sector by ceasing billions of dollars a year in direct and indirect subsidies to wind and solar companies. Require them instead to compete with fossil fuels on a level playing field.
10. Dramatically reduce government funding of climate change research pending the findings of the new President's Council on Climate Change. When funding for such research resumes, require that equal amounts go to studying natural and man-made climate change.
11. Dramatically reduce government funding of environmental advocacy groups, including funds delivered to such groups through the Asue and settl@scam.
12. End the use of Asecret science@by EPA and other regulatory agencies, conflicts of interest on scientific review boards, and reliance on epidemiological studies and climate models that are known to be flawed and unscientific.
13. Roll back Corporate Average Fuel Economy (CAFE) standards, which result in the deaths of thousands of car and truck passengers every year, needlessly increase the price of new cars, and favor foreign car manufacturers.

For more information, contact The Heartland Institute at 312/377-4000 or by email at [think@heartland.org](mailto:think@heartland.org), or visit our website at [www.heartland.org](http://www.heartland.org).

## 6. Trump Energy Policy

### An America First Energy Plan



Energy is an essential part of American life and a staple of the world economy. The Trump Administration is committed to energy policies that lower costs for hardworking Americans and maximize the use of American resources, freeing us from dependence on foreign oil.

For too long, we've been held back by burdensome regulations on our energy industry. President Trump is committed to eliminating harmful and unnecessary policies such as the Climate Action Plan and the Waters of the U.S. rule. Lifting these restrictions will greatly help American workers, increasing wages by more than \$30 billion over the next 7 years.

Sound energy policy begins with the recognition that we have vast untapped domestic energy reserves right here in America. The Trump Administration will embrace the shale oil and gas revolution to bring jobs and prosperity to millions of Americans. We must take advantage of the estimated \$50 trillion in untapped shale, oil, and natural gas reserves, especially those on federal lands that the American people own. We will use the revenues from energy production to rebuild our roads, schools, bridges and public infrastructure. Less expensive energy will be a big boost to American agriculture, as well.

The Trump Administration is also committed to clean coal technology, and to reviving America's coal industry, which has been hurting for too long.

In addition to being good for our economy, boosting domestic energy production is in America's national security interest. President Trump is committed to achieving energy independence from the OPEC cartel and any nations hostile to our interests. At the same time, we will work with our Gulf allies to develop a positive energy relationship as part of our anti-terrorism strategy.

Lastly, our need for energy must go hand-in-hand with responsible stewardship of the environment. Protecting clean air and clean water, conserving our natural habitats, and preserving our natural reserves and resources will remain a high priority. President Trump will refocus the EPA on its essential mission of protecting our air and water.

A brighter future depends on energy policies that stimulate our economy, ensure our security, and protect our health. Under the Trump Administration's energy policies, that future can become a reality.

## **Candidate Donald Trump’s North Dakota speech, “An America First Energy Plan”**

May 26, 2016  
Williston Basin Petroleum Conference  
Bismarck, North Dakota

I’m delighted to be in North Dakota, a state at the forefront of a new energy revolution. Oil and natural gas production is up significantly in the last decade. Our oil imports have been cut in half. But all this occurred in spite of massive new bureaucratic and political barriers.

President Obama has done everything he can to get in the way of American energy. He’s made life much more difficult for North Dakota, as costly regulation makes it harder and harder to turn a profit. If Hillary Clinton is in charge, things will get much worse. She will shut down energy production across this country. Millions of jobs, and trillions of dollars of wealth, will be destroyed as a result. That is why our choice this November is so crucial.

Here’s what it comes down to. Wealth versus poverty. North Dakota shows how energy exploration creates shared prosperity. Better schools. More funding for infrastructure. Higher wages. Lower unemployment. Things we’ve been missing. It’s a choice between sharing in this great energy wealth, or sharing in the poverty promised by Hillary Clinton.

You don’t have to take my word for it. Just listen to Hillary Clinton’s own words. She has declared war on the American worker. Here is what Hillary Clinton said earlier this year: “We are going to put a lot of coal miners and coal companies out of work.” She wants to shut down the coal mines. And if Crooked Hillary can shut down the mines, she can shut down your business too.

Let me tell you how President Obama Undermined Our Middle Class. President Obama’s stated intent is to eliminate oil and natural gas production in America. His policy is death by a thousand cuts through an onslaught of regulations. The Environmental Protection Agency’s use of totalitarian tactics forces energy operators in North Dakota into paying unprecedented multi-billion dollar fines before a penalty is even confirmed.

Government misconduct goes on and on:

- # The Department of Justice filed a lawsuit against seven North Dakota oil companies for the deaths of 28 birds while the Administration fast-tracked wind projects that kill more than 1 million birds a year.
- # The U.S Fish and Wildlife Service abuses the Endangered Species Act to restrict oil and gas exploration.
- # Adding to the pain, President Obama now proposes a \$10-per-barrel tax on American-produced oil in the middle of a downturn.

At the same time President Obama lifts economic sanctions on Iran, he imposes economic sanctions on America. He has allowed this country to hit the lowest oil rig count since 1999, producing thousands of layoffs. America's incredible energy potential remains untapped. It is a totally self-inflicted wound.

Under my presidency, we will accomplish complete American energy independence. Imagine a world in which our foes, and the oil cartels, can no longer use energy as a weapon. But President Obama has done everything he can to keep us dependent on others. Let me list some of the good energy projects he killed. He rejected the Keystone XL Pipeline despite the fact that:

- # It would create and support more than 42,000 jobs.
- # His own State Department concluded that it would be the safest pipeline ever built in the United States.
- # And it would have no significant impact on the environment.
- # Yet, even as he rejected this America-Canada pipeline, he made a deal that allows Iran to transport more oil through its pipeline that would have ever flowed through Keystone –with no environmental review.

President Obama has done everything he can to kill the coal industry. Here are a few of President Obama's decrees:

- # Regulations that shut down hundreds of coal-fired power plants and block the construction of new ones.
- # A prohibition against coal production on federal land.
- # Draconian climate rules that, unless stopped, would effectively bypass Congress to impose job-killing cap-and-trade.

President Obama has aggressively blocked the production of oil & natural gas:

- # He's taken a huge percentage of the Alaska National Petroleum Reserve off the table
- # Oil and natural gas production on federal lands is down 10%.
- # 87% of available land in the Outer Continental Shelf has been put off limits.
- # Atlantic Lease sales were closed down too – despite the fact that they would create 280,000 jobs and \$23.5 billion in economic activity.
- # President Obama entered the United States into the Paris Climate Accords – unilaterally, and without the permission of Congress. This agreement gives foreign bureaucrats control over how much energy we use right here in America.

These actions have denied millions of Americans access to the energy wealth sitting under our feet. This is your treasure, and you – the American People – are entitled to share in the riches. President Obama’s anti-energy orders have also weakened our security, by keeping us reliant on foreign sources of energy. Every dollar of energy we don’t explore here, is a dollar of energy that makes someone else rich over there.

If President Obama wanted to weaken America he couldn’t have done a better job. As bad as President Obama is, Hillary Clinton will be worse.

- # She will escalate the war against American energy, and unleash the EPA to control every aspect of our lives.
- # She declared that “we’ve got to move away from coal and all the other fossil fuels,” locking away trillions in American wealth.
- # In March, Hillary Clinton said: “by the time we get through all of my conditions, I do not think there will be many places in America where fracking will continue to take place.” Keep in mind, shale energy production could add 2 million jobs in 7 years.

Yet, while Hillary Clinton doesn’t want American energy, she is strongly in favor of foreign energy. Here is what she told China as Secretary of State: “American experts and Chinese experts will work to develop China’s natural gas resources. Imagine what it would mean for China if China unleashed its own natural gas resources so you are not dependent on foreign oil.”

Hillary Clinton has her priorities wrong. But we are going to turn all of that around. A Trump Administration will develop an America First energy plan. Here is how this plan will make America Wealthy Again:

- # American energy dominance will be declared a strategic economic and foreign policy goal of the United States.
- # America has 1.5 times as much oil as the combined proven resources of all OPEC countries; we have more Natural Gas than Russia, Iran, Qatar and Saudi Arabia Combined; we have three times more coal than Russia. Our total untapped oil and gas reserves on federal lands equal an estimated \$50 trillion.
- # We will become, and stay, totally independent of any need to import energy from the OPEC cartel or any nations hostile to our interests.
- # At the same time, we will work with our Gulf allies to develop a positive energy relationship as part of our anti-terrorism strategy.
- # We will use the revenues from energy production to rebuild our roads, schools, bridges and public infrastructure. Cheaper energy will also boost American agriculture.

# We will get the bureaucracy out of the way of innovation, so we can pursue all forms of energy. This includes renewable energies and the technologies of the future. It includes nuclear, wind and solar energy – but not to the exclusion of other energy. The government should not pick winners and losers. Instead, it should remove obstacles to exploration. Any market has ups and downs, but lifting these draconian barriers will ensure that we are no longer at the mercy of global markets.

A Trump Administration will focus on real environmental challenges, not phony ones:

# We will reject Hillary Clinton’s poverty-expansion agenda that enriches her friends and makes everyone else poor.

# We’ll solve real environmental problems in our communities like the need for clean and safe drinking water. President Obama actually tried to cut the funding for our drinking water infrastructure – even as he pushed to increase funding for his EPA bureaucrats.

# American workers will be the ones building this new infrastructure.

Here is my 100-day action plan:

# We’re going to rescind all the job-destroying Obama executive actions including the Climate Action Plan and the Waters of the U.S. rule.

# We’re going to save the coal industry and other industries threatened by Hillary Clinton’s extremist agenda.

# I’m going to ask Trans Canada to renew its permit application for the Keystone Pipeline.

# We’re going to lift moratoriums on energy production in federal areas

# We’re going to revoke policies that impose unwarranted restrictions on new drilling technologies. These technologies create millions of jobs with a smaller footprint than ever before.

# We’re going to cancel the Paris Climate Agreement and stop all payments of U.S. tax dollars to U.N. global warming programs.

# Any regulation that is outdated, unnecessary, bad for workers, or contrary to the national interest will be scrapped. We will also eliminate duplication, provide regulatory certainty, and trust local officials and local residents.

# Any future regulation will go through a simple test: is this regulation good for the American worker? If it doesn’t pass this test, the rule will not be approved.

Policy decisions will be public and transparent. They won't be made on Hillary's private email account. We're going to do all this while taking proper regard for rational environmental concerns. We are going to conserve our beautiful natural habitats, reserves and resources.

In a Trump Administration, political activists with extreme agendas will no longer write the rules. Instead, we will work with conservationists whose only agenda is protecting nature. From an environmental standpoint, my priorities are very simple: clean air and clean water.

My America First energy plan will do for the American People what Hillary Clinton will never do: create real jobs and real wage growth. According to the Institute for Energy Research, lifting the restrictions on American energy will create a flood of new jobs:

- # Almost a \$700 billion increase in annual economic output over the next 30 years.
- # More than a \$30 billion increase in annual wages over the next 7 years.
- # Over the next four decades, more than \$20 trillion in additional economic activity and \$6 trillion in new tax revenue.

The oil and natural gas industry supports 10 million high-paying Americans jobs and can create another 400,000 new jobs per year. This exploration will also create a resurgence in American manufacturing – dramatically reducing both our trade deficit and our budget deficit. Compare this future to Hillary Clinton's Venezuela-style politics of poverty. If you think about it, not one idea Hillary Clinton has will actually create a single net job or create a single new dollar to put in workers' pockets. In fact, every idea Hillary has will make jobs disappear.

Hillary Clinton's agenda is job destruction. My agenda is job creation. She wants to tax and regulate our workers to the point of extinction. She wants terrible trade deals, like NAFTA, signed by her husband, that will empty out our manufacturing. During her time as Secretary of State, she surrendered to China – allowing them to steal hundreds of billions of dollars in our intellectual property. She let them devalue their currency and add more than a trillion dollars to our trade deficit.

Then there was Libya. Secretary Clinton's reckless Libya invasion handed the country over to ISIS, which now controls the oil. The Middle East that Clinton inherited was far less dangerous than the Middle East she left us with today. Her reckless decisions in Iraq, Libya, Iran, Egypt and Syria have made the Middle East more unstable than ever before. The Hillary Clinton foreign policy legacy is chaos.

Hillary Clinton also wants totally open borders in America, which would further plunge our workers into poverty. Hillary's open borders agenda means a young single mom living in poverty would have to compete for a job or a raise against millions of lower-wage workers rushing into the country, but she doesn't care.

My agenda will be accomplished through a series of reforms that put America First:



- # Energy reform that creates trillions in new wealth.
- # Immigration reform that protects our borders and defends our workers.
- # Tax reform that brings millions of new jobs to America.
- # Regulation reform that eliminates stupid rules that send our jobs overseas.
- # Welfare reform that requires employers to recruit from the unemployment office – not the immigration office.
- # Trade reform that brings back our manufacturing jobs and stands up to countries that cheat.

There is one more thing we must do to make America wealthy again: We have to make our communities safe again. Violent crime is rising in major cities across the country. This is unacceptable. Every parent has the right to raise their kids in safety. When we put political correctness before justice, we hurt those who have the least. It undermines their schools, slashes the value of their homes, and drives away their jobs. Crime is a stealth tax on the poor.

To those living in fear, I say: help is coming. A Trump Administration will return law and order to America. Security is not something that should only be enjoyed by the rich and powerful. By the way, I was endorsed by the National Rifle Association, and we are not going to let Hillary Clinton abolish the 2nd amendment, either. My reform agenda is going to bring wealth and security to the poorest communities in this country.

What does Hillary have to offer the poor but more of the same? In Chicago, for instance, one-fourth of young Hispanics and one-third of young African-Americans are unemployed. My message today to all the people trapped in poverty is this: politicians like Hillary Clinton have failed you. They have used you. You need something new. I am the only who will deliver it.

We are going to put America back to work. We are going to put people before government. We are going to rebuild our inner cities. We are going to make you and your family safe, secure and prosperous.

The choice in November is a choice between a Clinton Agenda that puts Donors First – or a new agenda that puts America First. It is a choice between a Clinton government of, by and for the powerful – or a return to government of, by and for the people. It is a choice between certain decline, or a revival of America's promise. The people in charge of our government say things can't change. I am here to tell you that things have to change.

They want you to keep trusting the same people who've betrayed you. I am here to tell you that if you keep supporting those who've let you down, then you will keep getting let down for the rest of your life. I am prepared to kick the special interests out of Washington, D.C. and to hand their seat of power over to you. It's about time.

Together, we will put the American people first again. We will make our communities wealthy again. We will make our cities safe again. We will make our country strong again. Ladies and Gentlemen: We will make America Great Again.

## **Presidential Executive Order on Promoting Energy Independence and Economic Growth**

EXECUTIVE ORDER

March 28, 2017.

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### **PROMOTING ENERGY INDEPENDENCE AND ECONOMIC GROWTH**

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Policy. (a) It is in the national interest to promote clean and safe development of our Nation's vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation. Moreover, the prudent development of these natural resources is essential to ensuring the Nation's geopolitical security.

(b) It is further in the national interest to ensure that the Nation's electricity is affordable, reliable, safe, secure, and clean, and that it can be produced from coal, natural gas, nuclear material, flowing water, and other domestic sources, including renewable sources.

(c) Accordingly, it is the policy of the United States that executive departments and agencies (agencies) immediately review existing regulations that potentially burden the development or use of domestically produced energy resources and appropriately suspend, revise, or rescind those that unduly burden the development of domestic energy resources beyond the degree necessary to protect the public interest or otherwise comply with the law.

(d) It further is the policy of the United States that, to the extent permitted by law, all agencies should take appropriate actions to promote clean air and clean water for the American people, while also respecting the proper roles of the Congress and the States concerning these matters in our constitutional republic.

(e) It is also the policy of the United States that necessary and appropriate environmental regulations comply with the law, are of greater benefit than cost, when permissible, achieve environmental improvements for the American people, and are developed through transparent processes that employ the best available peer-reviewed science and economics.

Sec. 2. Immediate Review of All Agency Actions that Potentially Burden the Safe, Efficient Development of Domestic Energy Resources. (a) The heads of agencies shall review all existing regulations, orders, guidance documents, policies, and any other similar agency actions (collectively, agency actions) that potentially burden the development or use of domestically

produced energy resources, with particular attention to oil, natural gas, coal, and nuclear energy resources. Such review shall not include agency actions that are mandated by law, necessary for the public interest, and consistent with the policy set forth in section 1 of this order.

(b) For purposes of this order, “burden” means to unnecessarily obstruct, delay, curtail, or otherwise impose significant costs on the siting, permitting, production, utilization, transmission, or delivery of energy resources.

(c) Within 45 days of the date of this order, the head of each agency with agency actions described in subsection (a) of this section shall develop and submit to the Director of the Office of Management and Budget (OMB Director) a plan to carry out the review required by subsection (a) of this section. The plans shall also be sent to the Vice President, the Assistant to the President for Economic Policy, the Assistant to the President for Domestic Policy, and the Chair of the Council on Environmental Quality. The head of any agency who determines that such agency does not have agency actions described in subsection (a) of this section shall submit to the OMB Director a written statement to that effect and, absent a determination by the OMB Director that such agency does have agency actions described in subsection (a) of this section, shall have no further responsibilities under this section.

(d) Within 120 days of the date of this order, the head of each agency shall submit a draft final report detailing the agency actions described in subsection (a) of this section to the Vice President, the OMB Director, the Assistant to the President for Economic Policy, the Assistant to the President for Domestic Policy, and the Chair of the Council on Environmental Quality. The report shall include specific recommendations that, to the extent permitted by law, could alleviate or eliminate aspects of agency actions that burden domestic energy production.

(e) The report shall be finalized within 180 days of the date of this order, unless the OMB Director, in consultation with the other officials who receive the draft final reports, extends that deadline.

(f) The OMB Director, in consultation with the Assistant to the President for Economic Policy, shall be responsible for coordinating the recommended actions included in the agency final reports within the Executive Office of the President.

(g) With respect to any agency action for which specific recommendations are made in a final report pursuant to subsection (e) of this section, the head of the relevant agency shall, as soon as practicable, suspend, revise, or rescind, or publish for notice and comment proposed rules suspending, revising, or rescinding, those actions, as appropriate and consistent with law. Agencies shall endeavor to coordinate such regulatory reforms with their activities undertaken in compliance with Executive Order 13771 of January 30, 2017 (Reducing Regulation and Controlling Regulatory Costs).

### Sec. 3. Rescission of Certain Energy and Climate-Related Presidential and Regulatory Actions.

(a) The following Presidential actions are hereby revoked:

(i) Executive Order 13653 of November 1, 2013 (Preparing the United States for the Impacts of Climate Change);

(ii) The Presidential Memorandum of June 25, 2013 (Power Sector Carbon Pollution Standards);

(iii) The Presidential Memorandum of November 3, 2015 (Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment); and

(iv) The Presidential Memorandum of September 21, 2016 (Climate Change and National Security).

(b) The following reports shall be rescinded:

(i) The Report of the Executive Office of the President of June 2013 (The President's Climate Action Plan); and

(ii) The Report of the Executive Office of the President of March 2014 (Climate Action Plan Strategy to Reduce Methane Emissions).

(c) The Council on Environmental Quality shall rescind its final guidance entitled "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews," which is referred to in "Notice of Availability," 81 Fed. Reg. 51866 (August 5, 2016).

(d) The heads of all agencies shall identify existing agency actions related to or arising from the Presidential actions listed in subsection (a) of this section, the reports listed in subsection (b) of this section, or the final guidance listed in subsection (c) of this section. Each agency shall, as soon as practicable, suspend, revise, or rescind, or publish for notice and comment proposed rules suspending, revising, or rescinding any such actions, as appropriate and consistent with law and with the policies set forth in section 1 of this order.

Sec. 4. Review of the Environmental Protection Agency's "Clean Power Plan" and Related Rules and Agency Actions. (a) The Administrator of the Environmental Protection Agency (Administrator) shall immediately take all steps necessary to review the final rules set forth in subsections (b)(i) and (b)(ii) of this section, and any rules and guidance issued pursuant to them, for consistency with the policy set forth in section 1 of this order and, if appropriate, shall, as soon as practicable, suspend, revise, or rescind the guidance, or publish for notice and comment proposed rules suspending, revising, or rescinding those rules. In addition, the Administrator shall immediately take all steps necessary to review the proposed rule set forth in subsection (b)(iii) of this section, and, if appropriate, shall, as soon as practicable, determine whether to revise or withdraw the proposed rule.

(b) This section applies to the following final or proposed rules:

(i) The final rule entitled “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” 80 Fed. Reg. 64661 (October 23, 2015) (Clean Power Plan);

(ii) The final rule entitled “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” 80 Fed. Reg. 64509 (October 23, 2015); and

(iii) The proposed rule entitled “Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; Proposed Rule,” 80 Fed. Reg. 64966 (October 23, 2015).

(c) The Administrator shall review and, if appropriate, as soon as practicable, take lawful action to suspend, revise, or rescind, as appropriate and consistent with law, the “Legal Memorandum Accompanying Clean Power Plan for Certain Issues,” which was published in conjunction with the Clean Power Plan.

(d) The Administrator shall promptly notify the Attorney General of any actions taken by the Administrator pursuant to this order related to the rules identified in subsection (b) of this section so that the Attorney General may, as appropriate, provide notice of this order and any such action to any court with jurisdiction over pending litigation related to those rules, and may, in his discretion, request that the court stay the litigation or otherwise delay further litigation, or seek other appropriate relief consistent with this order, pending the completion of the administrative actions described in subsection (a) of this section.

Sec. 5. Review of Estimates of the Social Cost of Carbon, Nitrous Oxide, and Methane for Regulatory Impact Analysis. (a) In order to ensure sound regulatory decision making, it is essential that agencies use estimates of costs and benefits in their regulatory analyses that are based on the best available science and economics.

(b) The Interagency Working Group on Social Cost of Greenhouse Gases (IWG), which was convened by the Council of Economic Advisers and the OMB Director, shall be disbanded, and the following documents issued by the IWG shall be withdrawn as no longer representative of governmental policy:

(i) Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (February 2010);

(ii) Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis (May 2013);

(iii) Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis (November 2013);

(iv) Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis (July 2015);

(v) Addendum to the Technical Support Document for Social Cost of Carbon: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide (August 2016); and

(vi) Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis (August 2016).

(c) Effective immediately, when monetizing the value of changes in greenhouse gas emissions resulting from regulations, including with respect to the consideration of domestic versus international impacts and the consideration of appropriate discount rates, agencies shall ensure, to the extent permitted by law, that any such estimates are consistent with the guidance contained in OMB Circular A-4 of September 17, 2003 (Regulatory Analysis), which was issued after peer review and public comment and has been widely accepted for more than a decade as embodying the best practices for conducting regulatory cost-benefit analysis.

Sec. 6. Federal Land Coal Leasing Moratorium. The Secretary of the Interior shall take all steps necessary and appropriate to amend or withdraw Secretary's Order 3338 dated January 15, 2016 (Discretionary Programmatic Environmental Impact Statement (PEIS) to Modernize the Federal Coal Program), and to lift any and all moratoria on Federal land coal leasing activities related to Order 3338. The Secretary shall commence Federal coal leasing activities consistent with all applicable laws and regulations.

Sec. 7. Review of Regulations Related to United States Oil and Gas Development. (a) The Administrator shall review the final rule entitled "Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources," 81 Fed. Reg. 35824 (June 3, 2016), and any rules and guidance issued pursuant to it, for consistency with the policy set forth in section 1 of this order and, if appropriate, shall, as soon as practicable, suspend, revise, or rescind the guidance, or publish for notice and comment proposed rules suspending, revising, or rescinding those rules.

(b) The Secretary of the Interior shall review the following final rules, and any rules and guidance issued pursuant to them, for consistency with the policy set forth in section 1 of this order and, if appropriate, shall, as soon as practicable, suspend, revise, or rescind the guidance, or publish for notice and comment proposed rules suspending, revising, or rescinding those rules:

(i) The final rule entitled "Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands," 80 Fed. Reg. 16128 (March 26, 2015);

(ii) The final rule entitled "General Provisions and Non-Federal Oil and Gas Rights," 81 Fed. Reg. 77972 (November 4, 2016);

(iii) The final rule entitled "Management of Non Federal Oil and Gas Rights," 81 Fed. Reg. 79948 (November 14, 2016); and

(iv) The final rule entitled “Waste Prevention, Production Subject to Royalties, and Resource Conservation,” 81 Fed. Reg. 83008 (November 18, 2016).

(c) The Administrator or the Secretary of the Interior, as applicable, shall promptly notify the Attorney General of any actions taken by them related to the rules identified in subsections (a) and (b) of this section so that the Attorney General may, as appropriate, provide notice of this order and any such action to any court with jurisdiction over pending litigation related to those rules, and may, in his discretion, request that the court stay the litigation or otherwise delay further litigation, or seek other appropriate relief consistent with this order, until the completion of the administrative actions described in subsections (a) and (b) of this section.

Sec. 8. General Provisions. (a) Nothing in this order shall be construed to impair or otherwise affect:

- (i) the authority granted by law to an executive department or agency, or the head thereof; or
  - (ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.
- (b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.
- (c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

DONALD J. TRUMP

THE WHITE HOUSE

## **Statement by President Trump on the Paris Climate Accord**

June 1, 2017  
Rose Garden

3:32 P.M. EDT

THE PRESIDENT: Thank you very much. (Applause.) Thank you. I would like to begin by addressing the terrorist attack in Manila. We’re closely monitoring the situation, and I will continue to give updates if anything happens during this period of time. But it is really very sad as to what’s going on throughout the world with terror. Our thoughts and our prayers are with all of those affected.

Before we discuss the Paris Accord, I’d like to begin with an update on our tremendous -- absolutely tremendous -- economic progress since Election Day on November 8th. The

economy is starting to come back, and very, very rapidly. We've added \$3.3 trillion in stock market value to our economy, and more than a million private sector jobs.

I have just returned from a trip overseas where we concluded nearly \$350 billion of military and economic development for the United States, creating hundreds of thousands of jobs. It was a very, very successful trip, believe me. (Applause.) Thank you. Thank you.

In my meetings at the G7, we have taken historic steps to demand fair and reciprocal trade that gives Americans a level playing field against other nations. We're also working very hard for peace in the Middle East, and perhaps even peace between the Israelis and the Palestinians. Our attacks on terrorism are greatly stepped up -- and you see that, you see it all over -- from the previous administration, including getting many other countries to make major contributions to the fight against terror. Big, big contributions are being made by countries that weren't doing so much in the form of contribution.

One by one, we are keeping the promises I made to the American people during my campaign for President -- whether it's cutting job-killing regulations; appointing and confirming a tremendous Supreme Court justice; putting in place tough new ethics rules; achieving a record reduction in illegal immigration on our southern border; or bringing jobs, plants, and factories back into the United States at numbers which no one until this point thought even possible. And believe me, we've just begun. The fruits of our labor will be seen very shortly even more so.

On these issues and so many more, we're following through on our commitments. And I don't want anything to get in our way. I am fighting every day for the great people of this country. Therefore, in order to fulfill my solemn duty to protect America and its citizens, the United States will withdraw from the Paris Climate Accord -- (applause) -- thank you, thank you -- but begin negotiations to reenter either the Paris Accord or a really entirely new transaction on terms that are fair to the United States, its businesses, its workers, its people, its taxpayers. So we're getting out. But we will start to negotiate, and we will see if we can make a deal that's fair. And if we can, that's great. And if we can't, that's fine. (Applause.)

As President, I can put no other consideration before the wellbeing of American citizens. The Paris Climate Accord is simply the latest example of Washington entering into an agreement that disadvantages the United States to the exclusive benefit of other countries, leaving American workers -- who I love -- and taxpayers to absorb the cost in terms of lost jobs, lower wages, shuttered factories, and vastly diminished economic production.

Thus, as of today, the United States will cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country. This includes ending the implementation of the nationally determined contribution and, very importantly, the Green Climate Fund which is costing the United States a vast fortune.

Compliance with the terms of the Paris Accord and the onerous energy restrictions it has placed on the United States could cost America as much as 2.7 million lost jobs by 2025 according to the National Economic Research Associates. This includes 440,000 fewer manufacturing jobs -- not what we need -- believe me, this is not what we need -- including automobile jobs, and the



further decimation of vital American industries on which countless communities rely. They rely for so much, and we would be giving them so little.

According to this same study, by 2040, compliance with the commitments put into place by the previous administration would cut production for the following sectors: paper down 12 percent; cement down 23 percent; iron and steel down 38 percent; coal -- and I happen to love the coal miners -- down 86 percent; natural gas down 31 percent. The cost to the economy at this time would be close to \$3 trillion in lost GDP and 6.5 million industrial jobs, while households would have \$7,000 less income and, in many cases, much worse than that.

Not only does this deal subject our citizens to harsh economic restrictions, it fails to live up to our environmental ideals. As someone who cares deeply about the environment, which I do, I cannot in good conscience support a deal that punishes the United States -- which is what it does -- the world's leader in environmental protection, while imposing no meaningful obligations on the world's leading polluters.

For example, under the agreement, China will be able to increase these emissions by a staggering number of years -- 13. They can do whatever they want for 13 years. Not us. India makes its participation contingent on receiving billions and billions and billions of dollars in foreign aid from developed countries. There are many other examples. But the bottom line is that the Paris Accord is very unfair, at the highest level, to the United States.

Further, while the current agreement effectively blocks the development of clean coal in America -- which it does, and the mines are starting to open up. We're having a big opening in two weeks. Pennsylvania, Ohio, West Virginia, so many places. A big opening of a brand-new mine. It's unheard of. For many, many years, that hasn't happened. They asked me if I'd go. I'm going to try.

China will be allowed to build hundreds of additional coal plants. So we can't build the plants, but they can, according to this agreement. India will be allowed to double its coal production by 2020. Think of it: India can double their coal production. We're supposed to get rid of ours. Even Europe is allowed to continue construction of coal plants.

In short, the agreement doesn't eliminate coal jobs, it just transfers those jobs out of America and the United States, and ships them to foreign countries.

This agreement is less about the climate and more about other countries gaining a financial advantage over the United States. The rest of the world applauded when we signed the Paris Agreement -- they went wild; they were so happy -- for the simple reason that it put our country, the United States of America, which we all love, at a very, very big economic disadvantage. A cynic would say the obvious reason for economic competitors and their wish to see us remain in the agreement is so that we continue to suffer this self-inflicted major economic wound. We would find it very hard to compete with other countries from other parts of the world.

We have among the most abundant energy reserves on the planet, sufficient to lift millions of America's poorest workers out of poverty. Yet, under this agreement, we are effectively putting

these reserves under lock and key, taking away the great wealth of our nation -- it's great wealth, it's phenomenal wealth; not so long ago, we had no idea we had such wealth -- and leaving millions and millions of families trapped in poverty and joblessness.

The agreement is a massive redistribution of United States wealth to other countries. At 1 percent growth, renewable sources of energy can meet some of our domestic demand, but at 3 or 4 percent growth, which I expect, we need all forms of available American energy, or our country -- (applause) -- will be at grave risk of brownouts and blackouts, our businesses will come to a halt in many cases, and the American family will suffer the consequences in the form of lost jobs and a very diminished quality of life.

Even if the Paris Agreement were implemented in full, with total compliance from all nations, it is estimated it would only produce a two-tenths of one degree -- think of that; this much -- Celsius reduction in global temperature by the year 2100. Tiny, tiny amount. In fact, 14 days of carbon emissions from China alone would wipe out the gains from America -- and this is an incredible statistic -- would totally wipe out the gains from America's expected reductions in the year 2030, after we have had to spend billions and billions of dollars, lost jobs, closed factories, and suffered much higher energy costs for our businesses and for our homes.

As the Wall Street Journal wrote this morning: "The reality is that withdrawing is in America's economic interest and won't matter much to the climate." The United States, under the Trump administration, will continue to be the cleanest and most environmentally friendly country on Earth. We'll be the cleanest. We're going to have the cleanest air. We're going to have the cleanest water. We will be environmentally friendly, but we're not going to put our businesses out of work and we're not going to lose our jobs. We're going to grow; we're going to grow rapidly. (Applause.)

And I think you just read -- it just came out minutes ago, the small business report -- small businesses as of just now are booming, hiring people. One of the best reports they've seen in many years.

I'm willing to immediately work with Democratic leaders to either negotiate our way back into Paris, under the terms that are fair to the United States and its workers, or to negotiate a new deal that protects our country and its taxpayers. (Applause.)

So if the obstructionists want to get together with me, let's make them non-obstructionists. We will all sit down, and we will get back into the deal. And we'll make it good, and we won't be closing up our factories, and we won't be losing our jobs. And we'll sit down with the Democrats and all of the people that represent either the Paris Accord or something that we can do that's much better than the Paris Accord. And I think the people of our country will be thrilled, and I think then the people of the world will be thrilled. But until we do that, we're out of the agreement.

I will work to ensure that America remains the world's leader on environmental issues, but under a framework that is fair and where the burdens and responsibilities are equally shared among the many nations all around the world.

No responsible leader can put the workers -- and the people -- of their country at this debilitating and tremendous disadvantage. The fact that the Paris deal hamstring the United States, while empowering some of the world's top polluting countries, should dispel any doubt as to the real reason why foreign lobbyists wish to keep our magnificent country tied up and bound down by this agreement: It's to give their country an economic edge over the United States. That's not going to happen while I'm President. I'm sorry. (Applause.)

My job as President is to do everything within my power to give America a level playing field and to create the economic, regulatory and tax structures that make America the most prosperous and productive country on Earth, and with the highest standard of living and the highest standard of environmental protection.

Our tax bill is moving along in Congress, and I believe it's doing very well. I think a lot of people will be very pleasantly surprised. The Republicans are working very, very hard. We'd love to have support from the Democrats, but we may have to go it alone. But it's going very well.

The Paris Agreement handicaps the United States economy in order to win praise from the very foreign capitals and global activists that have long sought to gain wealth at our country's expense. They don't put America first. I do, and I always will. (Applause.)

The same nations asking us to stay in the agreement are the countries that have collectively cost America trillions of dollars through tough trade practices and, in many cases, lax contributions to our critical military alliance. You see what's happening. It's pretty obvious to those that want to keep an open mind.

At what point does America get demeaned? At what point do they start laughing at us as a country? We want fair treatment for its citizens, and we want fair treatment for our taxpayers. We don't want other leaders and other countries laughing at us anymore. And they won't be. They won't be.

I was elected to represent the citizens of Pittsburgh, not Paris. (Applause.) I promised I would exit or renegotiate any deal which fails to serve America's interests. Many trade deals will soon be under renegotiation. Very rarely do we have a deal that works for this country, but they'll soon be under renegotiation. The process has begun from day one. But now we're down to business.

Beyond the severe energy restrictions inflicted by the Paris Accord, it includes yet another scheme to redistribute wealth out of the United States through the so-called Green Climate Fund -- nice name -- which calls for developed countries to send \$100 billion to developing countries all on top of America's existing and massive foreign aid payments. So we're going to be paying billions and billions and billions of dollars, and we're already way ahead of anybody else. Many of the other countries haven't spent anything, and many of them will never pay one dime.

The Green Fund would likely obligate the United States to commit potentially tens of billions of dollars of which the United States has already handed over \$1 billion -- nobody else is even

close; most of them haven't even paid anything -- including funds raided out of America's budget for the war against terrorism. That's where they came. Believe me, they didn't come from me. They came just before I came into office. Not good. And not good the way they took the money.

In 2015, the United Nation's departing top climate officials reportedly described the \$100 billion per year as "peanuts," and stated that "the \$100 billion is the tail that wags the dog." In 2015, the Green Climate Fund's executive director reportedly stated that estimated funding needed would increase to \$450 billion per year after 2020. And nobody even knows where the money is going to. Nobody has been able to say, where is it going to?

Of course, the world's top polluters have no affirmative obligations under the Green Fund, which we terminated. America is \$20 trillion in debt. Cash-strapped cities cannot hire enough police officers or fix vital infrastructure. Millions of our citizens are out of work. And yet, under the Paris Accord, billions of dollars that ought to be invested right here in America will be sent to the very countries that have taken our factories and our jobs away from us. So think of that.

There are serious legal and constitutional issues as well. Foreign leaders in Europe, Asia, and across the world should not have more to say with respect to the U.S. economy than our own citizens and their elected representatives. Thus, our withdrawal from the agreement represents a reassertion of America's sovereignty. (Applause.) Our Constitution is unique among all the nations of the world, and it is my highest obligation and greatest honor to protect it. And I will.

Staying in the agreement could also pose serious obstacles for the United States as we begin the process of unlocking the restrictions on America's abundant energy reserves, which we have started very strongly. It would once have been unthinkable that an international agreement could prevent the United States from conducting its own domestic economic affairs, but this is the new reality we face if we do not leave the agreement or if we do not negotiate a far better deal.

The risks grow as historically these agreements only tend to become more and more ambitious over time. In other words, the Paris framework is a starting point -- as bad as it is -- not an end point. And exiting the agreement protects the United States from future intrusions on the United States' sovereignty and massive future legal liability. Believe me, we have massive legal liability if we stay in.

As President, I have one obligation, and that obligation is to the American people. The Paris Accord would undermine our economy, hamstring our workers, weaken our sovereignty, impose unacceptable legal risks, and put us at a permanent disadvantage to the other countries of the world. It is time to exit the Paris Accord -- (applause) -- and time to pursue a new deal that protects the environment, our companies, our citizens, and our country.

It is time to put Youngstown, Ohio, Detroit, Michigan, and Pittsburgh, Pennsylvania -- along with many, many other locations within our great country -- before Paris, France. It is time to make America great again. (Applause.) Thank you. Thank you. Thank you very much.

Thank you very much. Very important. I'd like to ask Scott Pruitt, who most of you know and respect, as I do, just to say a few words.

Scott, please. (Applause.)

ADMINISTRATOR PRUITT: Thank you, Mr. President. Your decision today to exit the Paris Accord reflects your unflinching commitment to put America first.

And by exiting, you're fulfilling yet one more campaign promise to the American people. Please know that I am thankful for your fortitude, your courage, and your steadfastness as you serve and lead our country.

America finally has a leader who answers only to the people -- not to the special interests who have had their way for way too long. In everything you do, Mr. President, you're fighting for the forgotten men and women across this country. You're a champion for the hardworking citizens all across this land who just want a government that listens to them and represents their interest.

You have promised to put America First in all that you do, and you've done that in any number of ways -- from trade, to national security, to protecting our border, to rightsizing Washington, D.C. And today you've put America first with regard to international agreements and the environment.

This is an historic restoration of American economic independence -- one that will benefit the working class, the working poor, and working people of all stripes. With this action, you have declared that the people are rulers of this country once again. And it should be noted that we as a nation do it better than anyone in the world in striking the balance between growing our economy, growing jobs while also being a good steward of our environment.

We owe no apologies to other nations for our environmental stewardship. After all, before the Paris Accord was ever signed, America had reduced its CO2 footprint to levels from the early 1990s. In fact, between the years 2000 and 2014, the United States reduced its carbon emissions by 18-plus percent. And this was accomplished not through government mandate, but accomplished through innovation and technology of the American private sector.

For that reason, Mr. President, you have corrected a view that was paramount in Paris that somehow the United States should penalize its own economy, be apologetic, lead with our chin, while the rest of world does little. Other nations talk a good game; we lead with action -- not words. (Applause.)

Our efforts, Mr. President, as you know, should be on exporting our technology, our innovation to nations who seek to reduce their CO2 footprint to learn from us. That should be our focus versus agreeing to unachievable targets that harm our economy and the American people.

Mr. President, it takes courage, it takes commitment to say no to the plaudits of men while doing what's right by the American people. You have that courage, and the American people can take comfort because you have their backs.

Thank you, Mr. President.

END

# BACKGROUND

No. 3148 | SEPTEMBER 1, 2016

## Time to Unlock America's Vast Oil and Gas Resources

Kevin D. Dayaratna, PhD, David W. Kreutzer, PhD, and Nicolas D. Loris

### Abstract

*The doubling of U.S. oil production between 2008 and 2015 is an amazing story of American ingenuity, persistence, and, of course, drilling. The story is made more amazing by the fact that federal energy policy actively hindered this energy renaissance as it was taking place. What sort of energy powerhouse, then, could the U.S. be with an energy policy that unleashes America's total energy productivity? The combination of a rational regulatory environment with open access to energy sources would put a 50 percent increase within reach. Heritage Foundation energy policy analysts explain the Heritage Energy Model that shows these results, and how needless regulations hurt American consumers and companies.*

In March 2012 President Barack Obama stated, “We can’t just drill our way to lower gas prices.”<sup>1</sup> He said the same thing earlier that year on the campaign trail.<sup>2</sup> He said it a lot.<sup>3</sup> Perhaps the line polled well, but it was not true. The U.S. *did* drill its way to lower gas prices over the past several years (for both natural gas and gasoline) and broke the back of the Organization of the Petroleum Exporting Countries (OPEC) in the process.<sup>4</sup>

The doubling of U.S. oil production between 2008 and 2015 is an amazing story of American ingenuity, persistence, and, of course, drilling. The story is made more amazing by the fact that federal energy policy actively *hindered* this energy renaissance as it was taking place. In the first few months of the Obama Administration, the Department of the Interior cancelled oil and gas lease sales.<sup>5</sup> In 2011, the Obama Department of the Interior blocked access to most of America’s offshore oil and gas reserves, placing a de facto mora-

### KEY POINTS

- North American oil reserves (U.S., Canadian, and Mexican) total nearly 1.8 trillion barrels of recoverable oil.
- Lifting restrictions on energy production that have little, if any, environmental benefit, will add 700,000 jobs and \$3.7 trillion in GDP through 2035. Electricity expenditures for households will decline by up to 10.19 percent per year. For a family of four, this means an additional \$40,000 of income by 2035.
- The resulting energy—used all across the economy—becomes less expensive. Cheaper energy lowers the cost of doing business, making American companies more competitive and enabling them to invest and expand.
- Congress and the next Administration should open access to America’s abundant reserves, reduce the regulatory burden, and let states regulate energy production within their borders.
- The Energy Department has too much arbitrary power to decide where a company may export natural gas. Congress should remove the department from the natural-gas-permitting process.

This paper, in its entirety, can be found at <http://report.heritage.org/bg3148>

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Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

**From:** Joseph Bast  
**Sent:** Fri 9/29/2017 6:46:06 PM  
**Subject:** Round II: Nutty Old Republicans for a carbon tax

Charles Battig reminds us that this isn't the first time Shultz and Baker have pimped for their clients on this topic.

Joe

**From:** Charles G. Battig [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Friday, September 29, 2017 1:35 PM  
**To:** Joseph Bast  
**Subject:** Re: Nutty Old Republicans for a carbon tax

Joe,

Deja vu all over again...

You are welcome to forward my WSJ letter on this topic:

# *THE WALL STREET JOURNAL*

• [LETTERS](#) March 19, 2017

## **Carbon Tax: Solution to Nonexistent Problem**



Scientists recognize that change is a normal attribute of climate on all geological time scales, yet a unique tax rate of \$40 per ton of carbon (carbon dioxide) is claimed to cure “a potential threat of climate change.”

*PHOTO: MARTIN MEISSNER/ASSOCIATED PRESS*

March 19, 2017 1:48 p.m. ET

### **53 COMMENTS**

George P. Shultz and James A. Baker (“[We Thought We Would Hit Your Sweet Spot](#),” Letters, March 10) offer a lengthy polemic in apparent bewilderment as to why their tax scheme to cure a postulated “threat of climate change” was not better received. Climate change caused by carbon dioxide is assumed by the authors to be a global malady in need of a cure—their tax cure.

Scientists recognize that change is a normal attribute of climate on all geological time scales, yet a unique tax rate of \$40 per ton of carbon (carbon dioxide) is claimed to cure “a potential threat of climate change.” The authors assume that carbon dioxide is a prime driver of global climate but offer no proof. Dangerous anthropogenic climate change secondary to the burning of fossil fuels remains an unproved hypothesis, in spite of billions of dollars spent in the attempt. Years of claims of climate catastrophes that never come to realization and computer climate-modeling failures challenge the leading role given carbon dioxide in climate-change hypotheses.

The authors note that “energy producers support this notion” of a carbon tax. As any production costs or “carbon dioxide tax” are passed onto taxpayers and consumers, such producers have no reason to oppose it, and may well support it for public-relations reasons. Smoke-and-mirrors tax policies typically leave the taxpayer on the short end of the deal as those versed in government machinations well know. That is the real threat.

**Charles G. Battig, M.D.**

On Friday, September 29, 2017 1:10 PM, Joseph Bast <[JBast@heartland.org](mailto:JBast@heartland.org)> wrote:

Friends,

I encourage you to comment critically on this development, and maybe even look into

who funds “the Baker Institute for Public Policy's Global Energy Transitions Summit” and expose the RINOs, lefties, and rent-seekers behind this dumb dumb dumb idea.

Liberals-pretending-to-be-reporters have to reach way back and way down to find a Republican willing to endorse a carbon [dioxide] tax because...

(a) the elections of 2010, 2012, 2014, and 2016 removed from office virtually all Republicans who believed man-made global warming is a crisis,

(b) there is no reason to tax carbon dioxide, since President Trump and most careful students of the issue now understands the benefits of using fossil fuels far exceed any possible costs, including impacts on climate,

(c) the effects of a carbon tax on economic growth, jobs, and the poor would be devastating, and

(d) everyone knows this is just part of the Obama/left's war on modern technology, “capitalism,” big corporations, rural America, the working class... basically modernity and Western Civilization, however they want to phrase it or hide it. This isn't a “market-based” or “conservative” solution to a real problem.

No real conservative or classical liberal should want to have anything to do with a carbon tax. For more, see Rob Bradley's recent terrific article at [MasterResource](#).

Joe

**Energywire**

## James Baker restarts his push for carbon tax

Nathaniel Gronewold, E&E News reporter

Published: Friday, September 29, 2017

HOUSTON — Former Secretary of State James Baker is renewing his push for a national carbon tax, one that he believes can win support from all sides of the political spectrum.

The tax would be collected across a broad range of United States, would be rebated at the border, and would replace all carbon regulations on energy companies and other parts of the economy, he explained in outlining his proposal.

Baker said he originally floated the idea six months ago but has seen it gain little traction. He hoped to change that with a speech he delivered here yesterday, at the Rice University think tank that bears his name.

Baker fleshed out his proposal in detail during his appearance at the Baker Institute for Public Policy's Global Energy Transitions Summit. He described it as carefully designed to win bipartisan support.

"If properly implemented, the plan would substantially reduce greenhouse gas emissions; at the same time, it would also substantially eliminate sometimes onerous regulations that are a hallmark of our current energy policy," Baker said. "By combining these two elements, the plan represents a good-faith effort, I think, to move beyond the rancorous debate that is surrounding today the issue of global climate change, and the need to find such a compromise solution is quite acute."

He argued that one alternative is that "nothing at all will happen to remedy the risk" if the current political divide over the issue lingers indefinitely.

Baker, who served in the Reagan and George H.W. Bush administrations, said he has his own "doubts" about humankind's impact on climate change. The combustion of fossil fuels for energy production generates emissions that are thickening the atmosphere with heat-trapping gases, leading to a rise in average global temperatures.

But he argued to his fellow conservatives that it is important to implement measures to mitigate against climate change as an "insurance policy" in case the worst predictions about climate change prove true. His preferred approach is a carbon tax, and his concept has won the support of major oil and gas companies.

The tax would start out small and be relatively painless, and would increase over time. Baker proposes that such a national carbon tax be revenue-neutral, meaning that the money would not be used to expand the size of government or government spending.

Instead, he proposes that all proceeds generated by the tax be distributed as dividends to families through the Social Security Administration, as a means to help regular citizens cope with any additional expenses that might be associated with a carbon tax. By his team's math, a \$40-per-ton tax on greenhouse gas emissions would translate into a \$2,000 annual dividend payment for a family of four.

Trade hawks should also support the idea, Baker suggested.

His proposal sees a national carbon tax rebated at the border for U.S. exports, meaning exported products would be exempt from the tax. It would be imposed on imports, ensuring imported goods are subjected to the same levy as domestically produced and sold products. In principle, it would work exactly like Canada's goods and service tax or the value-added taxes common in Europe, which are imposed on imports and exempted for the exports of those countries.

The final pillar of Baker's proposal is aimed at winning over conservatives skeptical of government policy addressing climate change.

Baker said if Republicans can accept a national carbon tax, Democrats should in turn agree to rescind all existing regulations concerning greenhouse gas emissions on U.S. companies, and forgo implementing any new ones. The carbon tax would replace regulations as the United States' main policy tool addressing climate change.

"Much of the Environmental Protection Agency's regulatory authority over carbon emissions could be eliminated, including an outright repeal of President Obama's Clean Power Plan, which the current administration, of course, is working to do anyway without a carbon tax to replace it," Baker added. "The carbon tax we propose would help steer the United States toward a path of more durable economic growth by encouraging technological innovation and large-scale substitution of existing energy sources. It would also provide much-needed regulatory relief to American industries."

Baker admitted that his concept of a national carbon tax to replace regulations has yet to gain interest in Congress, let alone momentum. But he remains hopeful, noting that it was generally received positively at a recent Yale University conference dominated by discussions of the dire consequences of climate change should nations fail to take decisive actions to reduce carbon emissions.

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Joe

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**From:** Joseph Bast  
**Sent:** Fri 9/29/2017 6:10:37 PM  
**Subject:** Nutty Old Republicans for a carbon tax

Friends,

I encourage you to comment critically on this development, and maybe even look into who funds “the Baker Institute for Public Policy’s Global Energy Transitions Summit” and expose the RINOs, lefties, and rent-seekers behind this dumb dumb dumb idea.

Liberals-pretending-to-be-reporters have to reach way back and way down to find a Republican willing to endorse a carbon [dioxide] tax because...

(a) the elections of 2010, 2012, 2014, and 2016 removed from office virtually all Republicans who believed man-made global warming is a crisis,

(b) there is no reason to tax carbon dioxide, since President Trump and most careful students of the issue now understands the benefits of using fossil fuels far exceed any possible costs, including impacts on climate,

(c) the effects of a carbon tax on economic growth, jobs, and the poor would be devastating, and

(d) everyone knows this is just part of the Obama/left’s war on modern technology, “capitalism,” big corporations, rural America, the working class... basically modernity and Western Civilization, however they want to phrase it or hide it. This isn’t a “market-based” or “conservative” solution to a real problem.

No real conservative or classical liberal should want to have anything to do with a carbon tax. For more, see Rob Bradley’s recent terrific article at [MasterResource](#).

Joe

## Energywire

### **James Baker restarts his push for carbon tax**

Nathaniel Gronewold, E&E News reporter

Published: Friday, September 29, 2017

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But he argued to his fellow conservatives that it is important to implement measures to mitigate against climate change as an "insurance policy" in case the worst predictions about climate change prove true. His preferred approach is a carbon tax, and his concept has won the support of major oil and gas companies.

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Joe

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**From:** Joseph Bast  
**Sent:** Wed 9/27/2017 3:28:32 PM  
**Subject:** Trump Caving in to California on CAFE Standards?

<https://www.bloomberg.com/news/articles/2017-09-22/california-sets-demands-for-talking-emissions-targets-with-trump>

Stockholm syndrome?

Cannot count on the auto companies to defend their customers.

Joe

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**From:** Joseph Bast  
**Sent:** Tue 9/26/2017 3:23:19 PM  
**Subject:** Donn Dears reply to WSJ/Lazard re wind energy costs

Donn Dears has an excellent piece refuting the claim made in a recent WSJ article that wind power costs are as low or lower than coal and natural gas. See his message below. Donn will be at our Red Team briefing on Thursday and eager to talk to you all about it...

Joe

**From:** Donn Dears [mailto:Ex. 6 - Personal Privacy]  
**Sent:** Tuesday, September 26, 2017 9:51 AM  
**To:** Joseph Bast  
**Subject:** WSJ

Joe:

You suggested there be a reply to the WSJ article on wind energy costs being lower than coal or natural gas LCOEs.

It gets complicated because Lazard used resource factors that they called capacity factors.

Here's link to my article LCOEs <http://bit.ly/2ypCSka>

Donn

**From:** Joseph Bast  
**Sent:** Tue 9/26/2017 3:08:10 PM  
**Subject:** Roger Bezdek ~ The Economic and Job Benefits of U.S. Coal

Dr. Roger Bezdek is one of our most qualified and best communicators on the benefits of fossil fuels...link to his new report and invitation to a Q&A Webcast on October 26, below.

Joe

## *Coal Q&A Webcast*

# **The Economic and Job Benefits of U.S. Coal**

**Roger H. Bezdek, Ph.D.  
President, Management Information Services, Inc.  
(MISI)**

Thursday, October 26, 2017 ~ 2-3 pm Eastern

A new report finds that the size and importance of the U.S. coal industry is greatly underestimated by the data typically used. Failure to include contractor employment undercounts mining jobs by 30%-40%. Moreover, the inclusion of indirect jobs effects increases the jobs generated by a factor of 3 to 4.

In this Department of Energy-funded study, MISA forecast the economic and jobs impacts of 7 scenarios involving assumptions about economic growth, technologies, tax credits, and R&D. The complete report is available at <http://misa-net.com/publications/DOECoal-0917.pdf>.

All of the scenarios generate substantially more jobs than the Reference Case -- between 5 and 10 million additional jobs, and more than 15 – 20 million cumulative jobs in total. Utilizing both CCS tax credits and DOE R&D greatly increases the number of jobs created. To maximize job creation, tax credits are not sufficient; rather, DOE R&D is also required. For some regions in Appalachia this will mean the difference between increased employment and prosperity or a future of worsening unemployment and recession.

**Join us** as Dr. Bezdek discusses this important report. Key areas to be covered:

- The economic and societal costs of coal mine closures in the U.S.
- Why the U.S. coal economy and jobs are 5 or 6 times larger than generally estimated
- The critical economic and political role of coal mining jobs in key states and local areas
- Why the U.S. may require more coal in the future than is currently anticipated
- Scenarios and forecasts of future U.S. coal requirements and coal

jobs

- The marginal impacts on the coal industry of economic growth, electricity demand, oil & gas prices, technology, tax credits, and R&D programs
- The importance of coal in manufacturing
- The significance of coal in regional economies and jobs

### **Register Today:**

**<http://www.eiseverywhere.com/285413>**

There is no charge for members of the  
American Coal Council, but pre-registration is required.

Non-members may register for a fee of \$50.

Space is limited to the first 50 registrants. Register TODAY!

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Management Information Services, Inc. is an internationally recognized, Washington, D.C.-based economic research and management consulting firm with expertise in economic forecasting, litigation support and expert witness testimony, analysis of energy, environmental and electric utility issues, and labor markets.

<http://www.misi-net.com/>

**The American Coal Council's Coal Q&A Program** provides a forum to address critical issues affecting the U.S. coal industry ~ including coal producers, consumers and transporters. Each program begins with a topic briefing by a leading industry analyst or representative, followed by Q&A session.

[www.americancoalcouncil.org](http://www.americancoalcouncil.org)



**From:** Joseph Bast  
**Sent:** Tue 9/26/2017 1:32:34 PM  
**Subject:** Jay Lehr: Another great day

Dr. Jay Lehr, Heartland's Science Director, probably presents climate change realism to more audiences in the U.S. than any other spokesperson for our cause. He is usually the top-ranked speaker at events and generates standing ovations. Below is his report on his most recent talk, to 100 bankers, and an upcoming talk (college students at Iowa State University). Then he'll be here in Arlington Heights for our "Red Team briefing" on Thursday.

Never stop, Jay!

Joe

**From:** Jay Lehr [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Monday, September 25, 2017 7:51 PM  
**To:** Joseph Bast; Jim Lakely; Tim Huelskamp; Nikki Comerford; H. Sterling Burnett; Diane Bast; Veronica Harrison  
**Subject:** Another great day

Today I keynoted the annual conference of the leaders of the United Banks Bank, a private bank which services the needs of 1000 small community banks in 14 States along the Northern rim of the nation. The meeting was at a hunting lodge in LeCenter, MN an hour from Minneapolis. Nikki provide me with copies of Why Scientists Disagree about Climate Change and copies of the current copy of Budget and Tax News with the cover story of the new Reins Act, Regulations from the Executive In Need of Scrutiny which was one of my topics along with Energy, Agriculture Pricing, Drones, Artificial Intelligence, Robots and Global Warming. Minnesota is a mixed bag politically, but not this group. They loudly applauded Heartland's efforts to convince Trump to leave the Paris Climate Accord. There was not a dissenter in the room of 100 senior executives serving rural areas across America. It was a rewarding and satisfying day. As usual no copies of our book, BTN or my professional card were left behind.

I am off to teach genetics on Wednesday at Iowa State University now. Teaching these days on college campuses is a bit scary, but certainly challenging. Then I am off to our Thursday meeting at headquarters. You will notice if they scalped me when I explain that biodiversity reduction and specie disorders do not relate to man caused global warming.

Jay

Sent from Yahoo Mail for iPad

**From:** Joseph Bast  
**Sent:** Mon 9/25/2017 2:00:36 PM  
**Subject:** Nature Geoscience piece "may be a ploy, a throw-away"

Some climate realists (or at least luke-warmers) say the recent *Nature Geoscience* piece pushing off the climate catastrophe by a few decades is a big deal... but my immediate reaction was that it's just the once-a-month piece in once-credible science journals that sort-of-admit what skeptics have been saying all along. Such articles are easy to find, and have no impact on the debate. At best, they might help alarmists save face when the bottom falls out of their boat, but why should we care about that?

Ken Haapala had this to say about it in [The Week That Was](#):

TWTW:

[Roy] Spencer's comments on the new paper are particularly appropriate. He doubts that he and Christy would have been permitted to publish such a paper and states:

*"The realization by the authors that the climate models have produced too much warming since about 2000 has been out there for at least 5 years. It has been no secret, and Christy and I have been lambasted as "deniers" for repeatedly pointing it out."*

Spencer writes that the climate establishment may be trying to address the growing disparity between models and observations for some time, and suggests:

*"The resulting new paper is part of a grand scheme that Population Bomb author Paul Ehrlich perfected decades ago. I believe the new narrative taking shape is this: 'yes, we were wrong, but only in the timing of the coming global warming disaster. It is still going to happen... but now we have time to fix it, before it really, really is too late.'"*

Those who have observed complex negotiation strategies would not be surprised by such tactics. The new paper may be a ploy, a throw-away, attempting to quell serious questioning of the greenhouse gas theory exemplified in the IPCC models. See links under Challenging the Orthodoxy – NIPCC, Challenging the Orthodoxy, and Problems in the Orthodoxy.

Joe

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**From:** Joseph Bast  
**Sent:** Mon 9/25/2017 1:21:36 PM  
**Subject:** EPA's next step to rescind Clean Power Plan

FYI.

Joe

## Climatewire

### CLEAN POWER PLAN

#### Coming soon, Trump's new rule might have 'fuzzy math'

Robin Bravender and Niina Heikkinen, E&E News reporters

Published: Monday, September 25, 2017

When the Obama administration issued its landmark climate rule in 2015, officials declared that benefits to public health and the climate would be enormous — dwarfing the costs.

For every dollar spent to comply with U.S. EPA's Clean Power Plan, the public could potentially get more than \$6 in benefits, the Obama team said. Those benefits would come in part from averting premature deaths, asthma attacks and other health problems.

Now, the Trump administration is poised to ax the rule, a move the president touted again Friday night at a rally in Huntsville, Ala. Of the Clean Power Plan, Trump said, "Did you see what I did to that? Boom, gone," according to CNN.

But it's more complicated than that. As Trump's team formalizes its plans, officials are grappling with an important question: How will they change Obama's numbers to justify their plans?

EPA pledged to take a second look at the cost-benefit assessment in April when it published a formal plan to review the Clean Power Plan. "EPA will assess this rule and alternative approaches to determine whether they will provide benefits that substantially exceed their costs," the administration said.

That analysis will be important for several reasons. It will be used by the Trump administration to help convince the public and the courts that unraveling the rule makes sense for the economy. And it will send a signal about how the administration might recalculate climate change benefits and public health impacts more broadly when it's chopping down Obama-era rules.

Observers close to the rollback expect EPA to release its proposal next week, before an Oct. 7 deadline by which the agency has to update a federal appeals court on its plans. Many are expecting the agency to solicit comment on a drastically scaled-back version of the rule. They're also expecting EPA to release an overhauled look at the costs of the Obama-era regulation that has been recalculated to show a higher price tag and smaller benefits.

"I expect them to use fuzzy math, for sure, to lower the benefits and increase the costs," said Alison Cassady, director of energy and environment policy at the Center for American Progress.

Tom Lorenzen, an attorney at Crowell & Moring LLP who represents groups challenging the rule in court, said there's nothing surprising about the overhaul. "Agencies are entitled to look at the facts again and determine if they think about things a different way," he said.

EPA spokeswoman Liz Bowman declined to comment on the administration's plan because it is in the interagency review process.

## Lines of attack

The aim of the Clean Power Plan is to slash the power sector's greenhouse gas emissions 32 percent below 2005 levels by 2030. By the Obama EPA's estimate, the health and climate benefits would be \$34 billion to \$54 billion annually in 2030. The costs would be about \$8.4 billion per year.

Critics of the Clean Power Plan have long decried the Obama administration's calculations — saying those numbers vastly overstated the benefits while underplaying the costs of the rule on industries and consumers. Their arguments offer some options for how the Trump administration might reverse course.

One likely approach: Say Obama underestimated costs.

An industry analysis issued shortly after the Obama rule was issued predicted that the Clean Power Plan would be exponentially more expensive than expected — with annual costs ranging from \$29 billion to \$39 billion between 2022 and 2033. That report, by NERA Economic Consulting, was prepared for coal lobbying group the American Coalition for Clean Coal Electricity ([Greenwire](#), Nov. 9, 2015).

Contrary to Obama EPA's claims that electricity costs would drop for consumers, the report from NERA Economic Consulting also predicted the rule would raise electricity prices across the country.

EPA Administrator Scott Pruitt paid attention to that report. In May, he cited figures from the NERA study, saying the rule would have a total cost of \$292 billion ([Climatewire](#), May 25).

Also expected: a reduction in the benefits.

One avenue for doing so would be to reconsider the social cost of carbon, a complex metric for determining the cost of damages from emitting the greenhouse gas.

"My guess is they're going to try to make it as close to zero as possible," said Cassady of the Center for American Progress.

The Trump administration has already sought to eliminate the social cost of carbon value used under the Obama administration through an executive order, but has left room for agencies to recalculate the value based on domestic — rather than global — emissions. This move would mean that the calculated benefits of avoiding carbon emissions would be much lower, and so the economic benefits of implementing the regulation would be significantly diminished.

In the case of the Clean Power Plan, using a much lower value for the social cost of carbon could eliminate nearly half of the benefits of the climate rule, according to Richard Newell, president of Resources for the Future ([Climatewire](#), Feb. 13). The Obama EPA said climate benefits accounted for \$20 billion of the estimated total.

Pat Parenteau, a professor at Vermont Law School, said he wouldn't be surprised if the Trump administration took the position that the social cost of carbon is "too speculative." He said that "they may try to say it's just impossible to put a real, reliable number on the social cost of carbon, so we're not going to do it."

Proponents of the rule warn that such an approach would have a tough time in court.

"The courts have consistently struck down agency reviews that don't account for climate impacts," said Michael Burger, executive director of the Sabin Center for Climate Change Law at Columbia Law School.

Another avenue for the Trump team would be to scrap any consideration of how the rule might cut emissions of other pollutants, which are not directly targeted by the regulations. That produces a wealth of co-benefits under the Obama calculations.

A huge chunk of the predicted benefits comes from slashing soot- and smog-forming pollutants also emitted by the power sector. Those can cause health problems like premature deaths and asthma attacks.

The issue of co-benefits is a hot topic of debate among environmental lawyers, who will be closely watching the Trump team's calculations.

"It's basically an unresolved legal question," said Burger.

Supreme Court Chief Justice John Roberts in 2015 raised concerns during oral arguments over a separate Obama air rule, suggesting that counting the benefits from eliminating a pollutant that wasn't the direct target of the regulation might be "illegitimate" ([Greenwire](#), July 1, 2015).

## **Clues from water rule?**

The Trump administration's about-face on the economics of Obama's Clean Water Rule could offer signals about its strategy for unraveling the Clean Power Plan.

In June, EPA and the Army Corps of Engineers challenged their own analysis of the 2015 water regulation, saying most of the benefits they previously ascribed could no longer be quantified ([Greenwire](#), July 7).

The new economic analysis — released alongside a proposed repeal of the water rule — kept the previously calculated costs of imposing the rule but slashed the perceived benefits by 85 to 90 percent. That meant the benefits no longer outweighed the costs, as they did in the Obama-era assessment.

While the agencies said in 2014 that the water rule would result in benefits of up to \$554.9 million in increased wetlands protection, this year's assessment said those benefits were "unquantified."

To explain the discrepancy, the Trump team said faulty data had been used. "[T]he agencies believe the cumulative uncertainty in this context is too large."

Twitter: [@rbravender](#) Email: [rbravender@cenews.net](mailto:rbravender@cenews.net)



**From:** Joseph Bast  
**Sent:** Thur 9/21/2017 9:49:52 PM  
**Subject:** Fred Singer: Preventing the other climate catastrophe

**Somehow I missed this from a week ago. Well done, Dr. Singer!**

**Joe**

***Washington Times***

# **Preventing the other climate catastrophe**

Periodic global cooling might be thwarted by geoengineering

By S. Fred Singer - - Tuesday, September 12, 2017

## **ANALYSIS/OPINION:**

Climate cooling, as opposed to warming, presents serious problems for humanity. As cooling causes agriculture to fail, most of the world's population will starve and we will be reduced from its present level to about a million, hunting animals and collecting nuts and seeds for sustenance. This has happened before during the ice ages, when nomadic bands of prehistoric humans had to shelter in caves for protection from the cold, and had to rely on uncertain supplies of food.

Geoengineering to combat global warming is controversial. It is expensive and presents risks to the environment. However, when geoengineering is applied against climate cooling, both expense and risk become minor items.

We need to distinguish between two kinds of climate cooling events. The first kind is "astronomical" — as studied by the Serbian astronomer Milutin Milankovitch — and determined by the orbit of the Earth in the solar system and the obliquity and precession of the spin axis. There's very little we can do about that. In the past 2-3 million years, we have experienced about 20 of these glaciations, typically lasting 100,000 years, interrupted by interglacial warm periods of about 10,000 years. We've been in our present interglacial, which is called the Holocene epoch, for about 10,000 years, and many think we're due for another glaciation within a few decades or centuries. Some disagree and think that the Holocene may last much longer, about 45,000 years.

The accepted way in which a glaciation begins is when a snow-ice field at high latitude survives the summer and then grows during the winter months, getting larger and larger all the time. The remedy is quite simple, at least in concept. We need to identify the surviving snow-ice fields, which can be done easily by means of weather satellites. Once we identify them, we can remove them by dumping black soot and allow the summer sun to melt the snow and ice. However, these concepts need to be tested, so experiments are in order.

The second kind of climate cooling is controlled by solar activity and has a short period of 1,000-1,500 years. Our civilization experienced what we call the Little Ice Age (LIA) from about 1400 to 1800 A.D. The cooling was severe enough to destroy agriculture and the budding civilization in southern Greenland. We observed serious effects of the cooling in Europe when harvests failed and people starved; epidemics caused additional deaths. Since about 1850, the climate has been recovering from the LIA, showing some warming.

Even though the cooling of a Little Ice Age is not as severe as an astronomical glaciation, we need to move urgently to counteract a future LIA. This is not simple, but greenhouse effects can help to warm the climate and overcome the cooling. For various reasons, release of carbon dioxide is not the best remedy; carbon dioxide is saturated and doesn't have much additional climate impact. Furthermore, as far as we can tell, the recent LIA was patchy and individual cooling episodes lasted only years or decades.

In my view, the best way to overcome a Little Ice Age is to release water vapor at the tropopause, the boundary between the troposphere and stratosphere, at an altitude of about 12 kilometers. The water vapor will form a cirrus cloud of ice particles, just like a contrail from an aircraft. Theory predicts that this ice cloud will have a strong greenhouse effect that is localized to the dimension of the cloud — just what we want. However, tests are essential to demonstrate how much water is needed, to measure climate effects on the ground and verify that the cloud produces a strong local warming of sufficient duration.

While there is much current discussion about geoengineering, the expense and the risk have been forbidding. I strongly believe that the time is right for conducting experiments to test the concepts described above to offset a sure-to-occur catastrophic climate cooling.

In a nutshell, as opposed to global warming, global cooling is a very real problem for a number of reasons. Based on the historic past, we can be sure that cooling will occur again, and maybe very soon. When it does occur, it will have serious effects on agriculture and lead to mass starvation. Unlike for warming, geoengineering against cooling seems physically possible, relatively inexpensive and environmentally benign.

• *S. Fred Singer is professor emeritus of environmental sciences at the University of Virginia. He served as the founding director of the U.S. Weather Satellite Service and as chief scientist of the U.S. Department of Transportation.*

Joe

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**From:** Joseph Bast  
**Sent:** Thur 9/21/2017 3:44:13 PM  
**Subject:** E&E Legal Releases Energy Poverty Video to Encourage President Trump to Remain Firm on U.S. Commitment to Withdraw from Paris Treaty

Great stuff.

Joe

**From:** E&E Legal [mailto:info=eelegal.org@mail37.suw15.mcsv.net] **On Behalf Of** E&E Legal  
**Sent:** Thursday, September 21, 2017 10:40 AM  
**To:** Joseph Bast  
**Subject:** Press Release: E&E Legal Releases Energy Poverty Video to Encourage President Trump to Remain Firm on U.S. Commitment to Withdraw from Paris Treaty

**For Immediate Release:**  
September 21, 2017

**Contact:**  
[Info@eelegal.org](mailto:Info@eelegal.org)  
202-810-2001

**E&E Legal Releases Energy Poverty Video to Encourage President Trump to Remain Firm on U.S. Commitment to Withdraw from Paris Treaty**

Washington, D.C. – Today, the Energy & Environment Legal Institute (E&E Legal) released [an updated version of its Energy Poverty video](#), elaborating on the terrible human cost of "climate" policies (with no actual projected impact on climate), noting political and legal developments since President Trump's [dramatic announcement](#) on June 1, 2017, that the United States would withdraw from the United Nations-led Paris global warming treaty.

In his Rose Garden address, the President said, "The Paris Climate Accord is simply the latest example of Washington entering into an agreement that disadvantages the United States to the exclusive benefit of other countries, leaving American workers -- who I love -- and taxpayers to absorb the cost in terms of lost jobs, lower wages, shuttered factories, and vastly diminished economic production."

Leading up to the announcement, President Trump faced intense lobbying from leaders around the world, the domestic and international corporate media, multinational corporations, universities, think tanks, and numerous other external entities. The cries were heard loudest from those who have a vested interest in [the \\$1.5 trillion global climate change industry](#). Trump took a clear and unequivocal stance during his presidential campaign that he would withdraw the U.S. from the unfair and improperly "ratified" Paris treaty as a purely executive agreement -- that legal fiction of the Obama White House making the U.S. an outlier among nations. After taking office, he faced intense internal pressure to flip-flop on his promise to the American people, from Obama holdovers, career staff and even some "Remain" appointees of his own.

Those appointees -- including Secretary of State Rex Tillerson, and former Goldman Sachs official, now chair of the National Economic Council Gary Cohn -- profess to support the President. Nonetheless, this past weekend, as President Trump prepared for his first formal address to the United Nations, the [Wall Street Journal reported](#) that the President may be open to staying in the Paris Treaty, suggesting he was softening on his unequivocal June 1st announcement. The White House quickly refuted the Journal's assertion and reaffirmed that [the President's position had not changed](#).

"The fact that the recent "Remain" story was orchestrated in the first place, certainly driven in part by administration appointees, is a clear indication of the ongoing battle to get the President to reverse course before he actually, formally withdraws the illegitimate claim that the U.S. ratified the Paris treaty", said Energy & Environment Legal Institute (E&E Legal) President Craig Richardson. "The President, along with EPA Administrator Scott Pruitt and White House Counsel's Office, have taken a lifesaving position in ensuring global elitists both here and abroad don't shipwreck the U.S. economy through climate policies that have already devastated Europe, and we commend him and urge him to stay strong, and recognize what is truly at stake."

The new video opens with the President's June 1st Rose Garden announcement on the Paris Treaty, and then features news coverage from Europe, where former President Obama used to tell Americans to look if they want to see how these policies will work. It also notes that, as predicted, despite all of the misleading sales pitches of a "non-binding" pact lawyers have already stormed the 9th Circuit federal Court of Appeals arguing that the Paris treaty must be held against the U.S..

Headlines from newspapers of all stripes, as well as claims by left-wing groups and social service organizations decry what they acknowledge is the “scandal” of these many premature deaths, generally from hypothermia. Unlike computer-propheesied scenarios of the future, these deaths are real, they are occurring now in dramatically increasing numbers each winter. They are a direct, disgraceful result of government policies in the name of a fashionable cause that we know cannot rationally be what it purports to be, given these policies have no projected climate impact.

This campaign to promote the environmentalists’ anti-energy agenda turns morality on its head, and the public needs to know what, it seems, many advisers are apparently unwilling to let on. The evidence is clear and continued ignorance of the truth should no longer be tolerated.

"The battle to extricate the United States from this unfair, constitutionally repugnant and morally bankrupt global warming treaty is far from over, and we stand ready to do our part in educating the public on how these polices have already been tried in Europe and people are dying as a result," Richardson concluded.

### **About EE Legal**

The Energy & Environment Legal Institute (E&E Legal) is a 501(c)(3) organization engaged in strategic litigation, policy research, and public education on important energy and environmental issues. Primarily through its petition litigation and transparency practice areas, E&E Legal seeks to correct onerous federal and state policies that hinder the economy, increase the cost of energy, eliminate jobs, and do little or nothing to improve the environment.

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E&E Legal periodically disseminates press releases, reports, and other important information to those who signed-up or to those we believe would be interested in receiving.

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**From:** Joseph Bast  
**Sent:** Thur 9/21/2017 2:42:27 PM  
**Subject:** AEI Today: On Paris, the Trump administration shoots itself in the foot

AEI's Ben Zycher calls on President Trump to stick to his commitment to exit the Paris Climate Treaty in the excellent, as usual, commentary linked below.

I'm inclined to give the Trump administration more slack on this than Ben does – putting me on the more moderate side of AEI, maybe for the first time ever. After all, the President in the Rose Garden said very explicitly that he was open to negotiating a “better deal,” while saying pointedly that this was unlikely so long as the deal involved forcing the U.S. to reduce emissions or make payments to third world dictators. I can understand why his Secretary of State would tell his counterparts around the world that the US is willing to stay in the Paris treaty... that's what diplomats do. Presidents can be more explicit, as Trump is teaching us every day.

H/T Jameson Campaigne.

By the by, the picture below is probably from the Rose Garden, when Trump was explaining how small an impact U.S. emission reductions would have the global climate. You should have heard the camera shutters clicking at that moment. It was like machine gun fire!

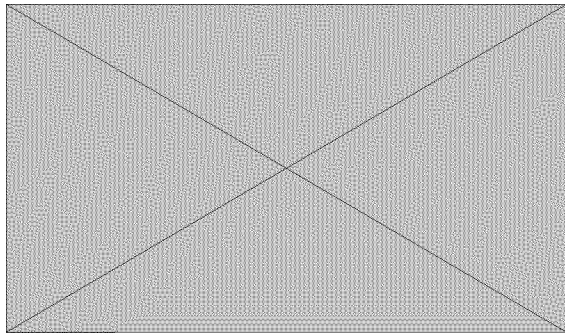
Joe

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AEI's daily publication of independent research, insightful analysis, and scholarly debate

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## On Paris, the Trump administration shoots itself in the foot

John Zycher | AEIdeas

Ambiguity and inconsistency may be useful negotiating tools in deal-making, but they're not salutary for coherent policy aimed at advancing US interests. Actually, ambiguity and inconsistency are not quite the correct terms to describe the Trump administration's stance toward US participation in the Paris climate agreement: "Confusion" is a better one. In any case, the agreement is indefensible no matter one's views on the science or policy of climate change.

[Full Story](#)





**From:** Joseph Bast  
**Sent:** Thur 9/21/2017 1:45:46 PM  
**Subject:** Joseph Bast and Roger Bezdek in the Hill: "Red Team-Blue Team Exercise Will Expose the Junk Science That Filled Obama's EPA"

It felt good writing this with Dr. Bezdek! See especially the highlighted paragraph.

Joe

**From:** Billy Aouste  
**Sent:** Thursday, September 21, 2017 8:42 AM  
**To:** Heartland Institute Users  
**Subject:** Joseph Bast and Roger Bezdek in the Hill

Joseph Bast and Roger Bezdek in the Hill

<http://thehill.com/opinion/energy-environment/351554-red-team-blue-team-exercise-will-expose-the-junk-science-that>

Billy Aouste

Media Specialist

The Heartland Institute

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*The Hill*  
9/21/17

# Red Team-Blue Team Exercise Will Expose the Junk Science That Filled Obama's EPA

By: Joseph Bast and Roger Bezdek

Former Environmental Protection Agency Administrator Christine Todd Whitman has leveled a number of error-riddled accusations against the current administrator, Scott Pruitt. Perhaps she is troubled by the fact that Pruitt's term in office will likely be marked by a landmark contribution to the scientific debate while her legacy was middling.

Whitman's main concern is that Pruitt will establish a "red team-blue team" exercise to examine whether the EPA has falsely claimed scientific certainty on unresolved questions in the debate over anthropogenic global warming (AGW). Such questions include whether human-produced carbon dioxide is the major driver of global warming and climate change, and if it is possible to accurately forecast future climate conditions and even weather events.

Whitman contends there is "broad consensus" and "no debate" on these matters, and that "the red-team idea is a waste of the government's time, energy and resources."

The first question to ask Whitman is, if the science is settled, the evidence overwhelming, and the answer is a slam-dunk, what is she afraid of? If she is right, the debate will last all of five minutes. She would seem to have nothing to lose.

We believe Whitman's real fear is that an objective, transparent, and rigorous red team-blue team exercise would reveal that the science behind current EPA climate policies was manipulated, biased toward alarmism, and is therefore not a reliable basis for public policy.

Claims about global warming coming from EPA, the National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), and international groups such as the Intergovernmental Panel on Climate Change (IPCC) are loaded with appeals to secret, hidden, or "missing" files and to pre-conceived conclusions, subject to overt political interference, and protected by a deep corruption of the peer review process. A red team-blue team exercise would expose all this dirty laundry.

How could an open and public debate result, as Whitman contends, in the public knowing "less about the science of climate change than before"? This is insulting to millions of people who are better trained to understand the science debate than she is.

The red team-blue team methodology was pioneered by the national security community to test assumptions and analyses, identify risks, and reduce — or at least understand — uncertainties. The process is considered a best practice in complex high-consequence situations such as intelligence assessments, spacecraft design, and major industrial operations. Would not Whitman agree that global warming is a complex high-consequence situation?

A red team-blue team exercise has staunch supporters outside the Trump administration. Earlier this year, Dr. Steven Koonin called for a more formal exercise to be overseen by an interagency group similar to the Obama-era and now disbanded Interagency Working Group on the Social Cost of Carbon. Others who have joined the call include Dr. William Happer at Princeton University, Dr. Judith Curry of the Georgia Institute of Technology, and Dr. Freeman Dyson at the Institute for Advanced Study in Princeton.

An international exercise has been underway since 2003, when Dr. S. Fred Singer, a distinguished atmospheric physicist, launched a Team B to critique an upcoming report from the United Nations' IPCC. That effort is ongoing and is called the Nongovernmental International Panel on Climate Change.

None of these distinguished scientists fits Whitman's demeaning reference to the "tiny minority of contrarians who publish very little and are funded by fossil fuel interests." Dr. Koonin, just to focus on one, served as Undersecretary of Energy for Science under President Obama, served a decade as provost at Caltech, and is founder and currently the Director of New York University's Center for Urban Science and Progress.

Whitman argues that a red team-blue team exercise would be a waste of government resources and "a slap in the face to fiscal responsibility and responsible governance." Frankly, it would be a well-deserved slap in the face of past EPA administrators, including her, and other federal agency leaders who shamefully allowed climate science to become politicized and unreliable.

It is fiscally irresponsible and irresponsible governance to spend trillions of dollars on uneconomical technologies, forcing consumers to buy products they do not want, and destroying entire industries on the basis of untested hypotheses and inaccurate forecasts.

A red team-blue team investigation of the truth about global warming is absolutely imperative. We know why Whitman opposes it. For the rest of us, this exercise is long over-due.

*Joseph L. Bast is CEO of The Heartland Institute, a conservative nonprofit group based in Illinois, and Roger H. Bezdek, Ph.D., is president of Management Information Services, Inc., an economic research and consulting firm.*

**From:** Joseph Bast  
**Sent:** Tue 9/19/2017 7:57:44 PM  
**Subject:** WaPo: "New climate change calculations could buy the Earth some time - if they're right"

This would be reassuring news, except the underlying premise is utterly wrong. Just more fake news.

Joe

[https://www.washingtonpost.com/news/energy-environment/wp/2017/09/18/new-climate-calculations-could-buy-the-earth-some-time-if-theyre-right/?utm\\_term=.1e583b056eea](https://www.washingtonpost.com/news/energy-environment/wp/2017/09/18/new-climate-calculations-could-buy-the-earth-some-time-if-theyre-right/?utm_term=.1e583b056eea)

## **New climate change calculations could buy the Earth some time — if they're right**

By [Chris Mooney](#) September 18 at 1:36 PM

A group of prominent scientists on Monday created a potential whiplash moment for climate policy, suggesting that humanity could have considerably more time than previously thought to avoid a “dangerous” level of global warming.

The upward revision to the planet’s influential “carbon budget” was published by a number of researchers who have been deeply involved in studying the concept, making it all the more unexpected. But other outside researchers raised questions about the work, leaving it unclear whether the new analysis — which, if correct, would have very large implications — will stick.

In a study published in the journal *Nature Geoscience*, a team of 10 researchers, led by Richard Millar of the University of Oxford, recalculated the carbon budget for limiting the Earth’s warming to 1.5 degrees Celsius (2.7 degrees Fahrenheit) above temperatures seen in the late 19th

century. It had been widely assumed that this stringent target would prove unachievable — but the new study would appear to give us much more time to get our act together if we want to stay below it.

“What this paper means is that keeping warming to 1.5 degrees C still remains a geophysical possibility, contrary to quite widespread belief,” Millar said in a news briefing. He conducted the research with scientists from Britain, Canada, New Zealand, Austria, Switzerland and Norway.

*[Next wave of EPA science advisers could include those who question climate change]*

But the new calculation diverged so much from what had gone before that other experts were still trying to figure out what to make of it.

“When it’s such a substantial difference, you really need to sit back and ponder what that actually means,” Glen Peters, an expert on climate and emissions trajectories at the Center for International Climate Research in Oslo, said of the paper. He was not involved in the research.

“The implications are pretty profound,” Peters continued. “But because of that, you’re going to have some extra eyes really scrutinizing that this is a robust result.”

That may have already begun, with at least one prominent climate scientist confessing he had a hard time believing the result.

“It is very hard to see how we could still have a substantial CO<sub>2</sub> emissions budget left for 1.5 °C, given we’re already at 1 °C, thermal inertia means we’ll catch up with some more warming even without increased radiative forcing, and any CO<sub>2</sub> emissions reductions inevitably comes with reduced aerosol load as well, the latter reduction causing some further warming,” Stefan Rahmstorf of the Potsdam Institute for Climate Impact Research in Germany said by email.

Any substantial revision to the carbon budget would have major implications, changing our ideas of how rapidly countries will need to ratchet down their greenhouse gas emissions in coming years and, thus, the very workings of global climate policymaking.

*[Some good news about global warming for once — plants are speeding up their use of carbon]*

Limiting the Earth's warming to 1.5 degrees Celsius above preindustrial temperatures was the most ambitious goal cited in the 2015 Paris climate agreement. It is of particular importance to vulnerable developing nations and small island states, which fear that they could be submerged by rising seas unless warming remains this modest.

Discussion up until now, however, has largely focused on how to avoid the more lenient but still-quite-difficult target of 2 degrees Celsius (3.6 degrees Fahrenheit). That is both because 1.5 degrees C was widely viewed as infeasible and because considerably less research had focused on studying the achievability of the target.

In 2013, the United Nations' Intergovernmental Panel on Climate Change (IPCC) calculated that humanity could emit about 1,000 more gigatons, or billion tons, of carbon dioxide from 2011 onward if it wanted a good chance of limiting warming to 2 degrees C — launching the highly influential concept of the “carbon budget.”

The allowable emissions or budget for 1.5 degrees C would, naturally, be lower. One 2015 study found they were 200 billion to 400 billion tons. And we currently emit about 41 billion tons per year, so every three years, more than 100 billion tons are gone.

No wonder a recent study put the chance of limiting warming to 1.5 degrees C at 1 percent. Peters said that according to the prior paradigm, we basically would have used up the carbon budget for 1.5 degrees Celsius by the year 2022.

That's what makes the new result so surprising: It finds that we have more than 700 billion tons left to emit to keep warming within 1.5 degrees Celsius, with a two-thirds probability of success. “That's about 20 years at present-day emissions,” Millar said at the news briefing.

“These remaining budgets are substantially greater than the budgets that might have been inferred from the” IPCC, he added.

*[Four underappreciated ways that climate change could make hurricanes even worse]*



The recalculation emerges, said study co-author Joeri Rogelj of the International Institute for Applied Systems Analysis in Austria, because warming has been somewhat less than forecast by climate models — and because emissions have been somewhat more than expected.

“The most complex Earth system models that provided input to [the IPCC] tend to slightly overestimate historical warming, and at the same time underestimate compatible historical CO2 emissions,” he said by email. “These two small discrepancies accumulate over time and lead to an slight underestimation of the remaining carbon budget. What we did in this study is to reset the uncertainties, starting from where we are today.”

Pierre Friedlingstein, another author of the study and a professor at the University of Exeter in the United Kingdom, added at the news briefing that “the models end up with a warming which is larger than the observed warming for the current emissions. ... So, therefore, they derive a budget which is much lower.”

The new research, thus, seems to potentially empower a critique of climate science that has often been leveled by skeptics, doubters and “lukewarmers” who argue that warming is shaping up to be less than climate models have predicted.

But Rahmstorf, for one, finds this to be part of the problem. “They appear to have adjusted the budget upward based on the idea that there has been less observed warming than suggested by the climate models, but that is not actually true if you do the comparison properly,” he wrote, citing the need to measure the warming of the Arctic properly and account for the effect of aerosols.

In the meantime, the result could be a lot of confusion, says Oliver Geden, who leads the EU Division for the German Institute for International and Security Affairs.

“First, it is quite unusual that scientists say that the state of the climate is better than expected, that a recalculation of the remaining carbon budget gives us more breathing room, not less,” Geden said in an email. “Second, it is far from clear that the authors’ method/results will form a new scientific consensus, given that some researchers are already voicing objections. A significant carbon budget recalculation should not come as a surprise, but for many policymakers

it will.”

Rogelj said the study did not explicitly consider whether the carbon budget for 2 degrees Celsius would also be larger, but, nonetheless, it surely rises substantially, too, if the analysis is correct.

Nonetheless, even with the new revision, the latest research finds that keeping warming below 1.5 degrees C will be quite hard. “Even with the largest estimates of the remaining carbon budget, this path is extremely challenging, starting reductions immediately and then reducing emissions to zero over 40 years,” Millar said at the press event.

Overall, the dispute raises questions about how widely the carbon-budget concept has proliferated — and just how much we actually understand it.

“It goes to show, this carbon-budget approach is still much more, let’s say, immature scientifically than what we often assume,” Peters said.

**From:** Joseph Bast  
**Sent:** Tue 9/19/2017 1:31:57 PM  
**Subject:** Justin Gillis leaving NYT: Ding Dong the Witch is Dead

<https://wattsupwiththat.com/2017/09/18/justin-gillis-strikes-one-last-time/>

Still waiting for Chris Mooney and Juliet Eilperin at the WaPo and Seth Borenstein at AP to flame out.

Joe

Joseph Bast

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**From:** Joseph Bast  
**Sent:** Mon 9/18/2017 8:13:18 PM  
**Subject:** New NIPCC Policy Brief by Dennis Hedke on sea-level rise

This paper may be of interest to you:

<https://www.heartland.org/publications-resources/publications/data-versus-hype-how-ten-cities-show-sea-level-rise-is-a-false-crisis>

In the next 24 hours it will also appear on the [NIPCC website](#).

Titled “Data versus Hype: How Ten Cities Show Sea Level Rise Is a False Crisis,” this new report by the Nongovernmental International Panel on Climate Change (NIPCC) finds “fear of rising sea levels is not a justification for reducing CO<sub>2</sub> emissions or adopting policies that would have that effect.”

The author, Dennis E. Hedke, is a geophysicist and past president of the Geophysical Society of Kansas and of the Kansas Geological Society. He has served as a board member of the Kansas Geological Foundation and is a member of the Denver Geophysical Society and Geophysical Society of Houston.

Hedke reports and analyzes real data collected from ten coastal cities with long and reliable sea-level records. Those cities are Ceuta, Spain; Honolulu, Hawaii; Atlantic City, New Jersey; Sitka, Alaska; Port Isabel, Texas; St. Petersburg, Florida; Fernandina Beach, Florida; Mumbai/Bombay, India; Sydney, Australia; and Stavanger, Norway. He concludes:

The ten case studies of sea-level rise at coastal cities, broadly representative of sites around the world, and the brief analysis that followed undercut a widely repeated but scientifically debunked claim in the climate change debate.

I hope you will forward this to friends and foes alike.

Joe

Joseph Bast

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**To:** Jim Lakely[JLakely@heartland.org]  
**From:** Konkus, John  
**Sent:** Tue 9/5/2017 7:09:53 PM  
**Subject:** RE: WaPo

Thank you Jim!

I'll check on the invite for you.

**From:** Jim Lakely [mailto:JLakely@heartland.org]  
**Sent:** Tuesday, September 5, 2017 3:07 PM  
**To:** Konkus, John <konkus.john@epa.gov>  
**Subject:** RE: WaPo

John,

This is outstanding! I didn't realize until reading it that the focus of the hit-piece was you. Congrats!

I've shared this story with all Heartland staff, asking them to jump to your aide and defend this position. I had to laugh, though, at the story. It's not that Eilperin would have written a story other than the pearl-clutching one she did. It's that she went to Christie Todd Whitman for comment. That she would defend the politicization of EPA grants – which for decades have gone only to alarmist nonprofits and scientists, not to mention wasteful scams like subsidizing “green” cookstoves – shows how EPA grows and becomes more alarmist through Republican and Democratic administrations alike. At least, that is, until now.

Congrats! And let me know how else we can help. I expect an op-ed, a couple of blog posts, some social media activity, and perhaps a podcast on this.

And don't forget! Can you check on our invitation to Administrator Pruitt to give a keynote address at our [America First Energy Conference](#) on November 8 in Houston? We've got three keynote slots, and I've got tentative affirmation from Zinke to take one of them. I'd love to have Zinke and Pruitt speak to an audience of hundreds of energy industry influentials.

Best,

Jim Lakely  
Director of Communications  
The Heartland Institute  
3939 North Wilke Drive

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Twitter: @HeartlandInst

**From:** Konkus, John [mailto:konkus.john@epa.gov]  
**Sent:** Tuesday, September 05, 2017 9:27 AM  
**To:** Jim Lakely  
**Subject:** WaPo

Jim: Check out this article: [https://www.washingtonpost.com/politics/epa-now-requires-political-aides-sign-off-for-agency-awards-grant-applications/2017/09/04/2fd707a0-88fd-11e7-a94f-3139abce39f5\\_story.html?hpid=hp\\_hp-more-top-stories\\_epagrants-730pm-winner%3Ahomepage%2Fstory](https://www.washingtonpost.com/politics/epa-now-requires-political-aides-sign-off-for-agency-awards-grant-applications/2017/09/04/2fd707a0-88fd-11e7-a94f-3139abce39f5_story.html?hpid=hp_hp-more-top-stories_epagrants-730pm-winner%3Ahomepage%2Fstory)

- Accountability and process being put in place to protect the taxpayers.
- An agency that's actually NOT spending the taxpayer's money!
- The last administration inserted its politics into nearly all funding awards, we're taking politics out.
- This is draining the swamp, it's what the American people voted for.



**To:** JLakely@heartland.org[JLakely@heartland.org]  
**From:** Konkus, John  
**Sent:** Tue 9/5/2017 12:00:38 PM  
**Subject:** Call

Jim: Let me know a good time for me to give you a quick buzz this morning.

Thank you!

John Konkus

Environmental Protection Agency

Deputy Associate Administrator for Public Affairs

Mobile: Ex. 6 - Personal Privacy

**To:** Konkus, John[konkus.john@epa.gov]  
**Bcc:** 'Hicks, Hope C. EOP/WHO' [Ex. 6 - Personal Privacy]; 'Popovich, Luke'[LPopovich@nma.org]; 'Bell, Stephen A.' [Stephen.Bell@nreca.coop]; [Ex. 6 - Personal Privacy]; 'Jackie.Stewart@fticonsulting.com'[Jackie.Stewart@fticonsulting.com]; 'Rashid G. Hallaway'[rhallaway@hhqventures.com]; 'Byers, Dan'[DByers@USChamber.com]; Love, Kelly A. EOP/WHO [Ex. 6 - Personal Privacy]; 'rob.bluey@heritage.org'[rob.bluey@heritage.org]; 'Ginny.Montalbano@heritage.org'[Ginny.Montalbano@heritage.org]; stephanie@mcfarlandpr.com[stephanie@mcfarlandpr.com]; 'bndunlop@heritage.org'[bndunlop@heritage.org]; 'pmichaels@cato.org'[pmichaels@cato.org]; 'jlakely@heartland.org'[jlakely@heartland.org]; 'meredith.schultz@aei.org'[meredith.schultz@aei.org]; 'myron.ebell@cei.org'[myron.ebell@cei.org]; [Ex. 6 - Personal Privacy]; 'll@leonardleo.com'[ll@leonardleo.com]; [Ex. 6 - Personal Privacy]; Dorr, Kaelan K. EOP/WHO [Ex. 6 - Personal Privacy]; Rateike, Bradley A. EOP/WHO [Ex. 6 - Personal Privacy]  
**From:** Konkus, John  
**Sent:** Tue 10/10/2017 4:36:14 PM  
**Subject:** EPA Proposes Repeal Of Clean Power Plan

CONTACT: [press@epa.gov](mailto:press@epa.gov)

## EPA Takes Another Step To Advance President Trump's America First Strategy, Proposes Repeal Of "Clean Power Plan"

**WASHINGTON** (October 10, 2017) – Today, U.S. Environmental Protection Agency (EPA) Administrator Scott Pruitt issued a Notice of Proposed Rulemaking (NPRM), proposing to repeal the so-called "Clean Power Plan (CPP)." After reviewing the CPP, EPA has proposed to determine that the Obama-era regulation exceeds the Agency's statutory authority. Repealing the CPP will also facilitate the development of U.S. energy resources and reduce unnecessary regulatory burdens associated with the development of those resources, in keeping with the principles established in President Trump's Executive Order on Energy Independence.

"The Obama administration pushed the bounds of their authority so far with the CPP that the Supreme Court issued a historic stay of the rule, preventing its devastating effects to be imposed on the American people while the rule is being challenged in court," **said EPA Administrator Scott Pruitt.** "We are committed to righting the wrongs of the Obama administration by cleaning the regulatory slate. Any replacement rule will be done carefully, properly, and with humility, by listening to all those affected by the rule."

### CPP Appears to be Inconsistent with the Clean Air Act

The CPP, issued by the Obama administration, was premised on a novel and expansive view of Agency authority that the Trump administration now proposes to determine is inconsistent with the Clean Air Act. In fact, the CPP was put on hold in February 2016, when the U.S. Supreme Court issued an unprecedented, historic stay of the rule.

“EPA will respect the limits of statutory authority. The CPP ignored states’ concerns and eroded longstanding and important partnerships that are a necessary part of achieving positive environmental outcomes. We can now assess whether further regulatory action is warranted; and, if so, what is the most appropriate path forward, consistent with the Clean Air Act and principles of cooperative federalism,” **said Administrator Pruitt.**

The CPP was issued pursuant to a novel and expansive view of authority under Section 111 of the Clean Air Act (CAA). The CPP required regulated entities to take actions “outside the fence line.” Traditionally, EPA Section 111 rules were based on measures that could be applied to, for, and at a particular facility, also referred to as “inside the fence line” measures. Prior to the CPP being issued, every single Section 111 rule on the books, including a handful of existing source rules and around 100 new-source rules, obeyed this limit. As the CPP departed from this traditional limit on EPA’s authority under an “inside the fence line” interpretation, EPA is proposing to repeal it.

EPA has now sent the NPRM to the Federal Register for publication. Upon publication, the public will have 60 days to submit comments.

The repeal package includes:

1. The “preamble,” which lays out the proposed legal interpretation, policy implications, and a summary of the cost-benefits analysis of the proposed repeal; and
2. The “Regulatory Impact Analysis (RIA),” an in-depth cost-benefit technical analysis.

### **CPP Repeal Saves up to \$33 Billion in Avoided Costs in 2030**

The proposed repeal both examines the Obama administration’s cost-benefit analysis, as well as provides insights to support an updated analysis of the environmental, health, and economic effects of the proposed repeal. The Trump administration estimates the proposed repeal could provide up to \$33 billion in avoided compliance costs in 2030.

The previous administration’s estimates and analysis of these costs and benefits was, in multiple areas, highly uncertain and/or controversial. Specific areas of controversy and/or uncertainty in the Obama administration’s analysis of CPP include:

- **Domestic versus global climate benefits:** The previous administration compared U.S. costs to an estimate of supposed global benefits, and failed to follow well-established economic procedures in estimating those benefits.

- **“Co-benefits” from non-greenhouse-gas pollutants:** The Obama administration relied heavily on reductions in other pollutants emitted by power plants, essentially hiding the true net cost of the CPP by claiming benefits from reducing pollutants that had nothing to do with the rule’s stated purpose.

- **Energy cost and savings accounting:** The Obama administration counted “energy efficiency” results of their rule as an avoided cost, resulting in a cost estimate being considerably lower than it would have been if they used the appropriate practice of considering these effects as benefits, rather than subtracting them from costs. Had the Obama administration used the Office of Management and Budget’s longstanding requirements and accounted cost and savings accordingly, it would have presented a more accurate accounting of the total cost of the CPP.

In this proposed repeal and its accompanying technical documents, this administration is, in a robust, open, and transparent way, presenting a wide range of analysis scenarios to the public.

As part of the notice-and-comment process for this proposed repeal, EPA will continue this analysis and inform the public, as necessary, to get feedback on new modeling and other information. The final action on this proposed repeal will address the results of this ongoing work.

Forthcoming is an Advanced Notice of Proposed Rulemaking (ANPRM) that will be reflective of a thoughtful and responsible approach to regulatory action grounded within the authority provided by the statute.

“With this action, the Trump administration is respecting states’ role and reinstating transparency into how we protect our environment,” **said Administrator Pruitt.**

#### **Background:**

On March 28, President Trump signed an Executive Order on Energy Independence, establishing a national policy in favor of energy independence, economic growth, and the rule of law. The purpose of the Executive Order (EO) is to facilitate the development of U.S. energy resources and to reduce unnecessary regulatory burdens associated with the development of those resources. That same day, EPA Administrator Scott Pruitt signed four Federal Register notices in response to the EO, including a formal announcement of review of the Clean Power Plan. After substantial review, the Agency has proposed to determine that the Clean Power Plan (CPP) must be repealed.

<http://usenvironmentalprotectionagency.cmail20.com/t/d-l-ujkdtrt-aqdkjif-r/>

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**From:** Konkus, John  
**Sent:** Mon 10/16/2017 5:24:14 PM  
**Subject:** Online Resources

Here are some official EPA online resources promoting today's action on sue and settle. Feel free to repost and share.

EPA Press Release: <https://www.epa.gov/newsreleases/administrator-pruitt-issues-directive-end-epa-sue-settle>

EPA Twitter: <https://twitter.com/EPA/status/919964744550944768>

Administrator Pruitt Twitter: <https://twitter.com/EPAScottPruitt/status/919973108718690304>

EPA Facebook:

[https://www.facebook.com/EPA/?hc\\_ref=ART56ZSShEGCwgh9IGELY8nDNPc1fbVl8d32TXo2AeC1Ma8NwnR83M&fref=nf](https://www.facebook.com/EPA/?hc_ref=ART56ZSShEGCwgh9IGELY8nDNPc1fbVl8d32TXo2AeC1Ma8NwnR83M&fref=nf)

Administrator Pruitt Facebook:

[https://www.facebook.com/EPAScottPruitt/?hc\\_ref=ARRJt8oGbYWoDuxnxdNUwPEOWtBSYMCkOopnmDoMUV07dRug0fkHwhY](https://www.facebook.com/EPAScottPruitt/?hc_ref=ARRJt8oGbYWoDuxnxdNUwPEOWtBSYMCkOopnmDoMUV07dRug0fkHwhY)

EPA YouTube: <https://youtu.be/meA2R2o71m4>

EPA DVIDS (Downloadable b-roll): <https://www.dvidshub.net/usepa>

John Konkus

Environmental Protection Agency

Deputy Associate Administrator for Public Affairs

Mobile: Ex. 6 - Personal Privacy

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**Bcc:** 'Hicks, Hope C. EOP/WHO' [Ex. 6 - Personal Privacy]; 'Popovich, Luke'[LPopovich@nma.org]; 'Bell, Stephen A.'[Stephen.Bell@nreca.coop]; [Ex. 6 - Personal Privacy]; 'Jackie.Stewart@fticonsulting.com'[Jackie.Stewart@fticonsulting.com]; 'Rashid G. Hallaway'[rhallaway@hhqventures.com]; 'Byers, Dan'[DByers@USChamber.com]; 'Love, Kelly A. EOP/WHO' [Ex. 6 - Personal Privacy]; 'rob.bluey@heritage.org'[rob.bluey@heritage.org]; 'Ginny.Montalbano@heritage.org'[Ginny.Montalbano@heritage.org]; 'stephanie@mcfarlandpr.com'[stephanie@mcfarlandpr.com]; 'bndunlop@heritage.org'[bndunlop@heritage.org]; 'pmichaels@cato.org'[pmichaels@cato.org]; 'jlakely@heartland.org'[jlakely@heartland.org]; 'meredith.schultz@aei.org'[meredith.schultz@aei.org]; 'myron.ebell@cei.org'[myron.ebell@cei.org]; [Ex. 6 - Personal Privacy]; 'll@leonardleo.com'[ll@leonardleo.com]; [Ex. 6 - Personal Privacy]  
**From:** Konkus, John  
**Sent:** Mon 10/16/2017 3:40:34 PM  
**Subject:** Administrator Pruitt Issues Directive to End EPA "Sue & Settle"

CONTACT: [press@epa.gov](mailto:press@epa.gov)

## Administrator Pruitt Issues Directive to End EPA "Sue & Settle"

"The days of regulation through litigation are over," – EPA Administrator Scott Pruitt

**WASHINGTON** (October 16, 2017) – In fulfilling his promise to end the practice of regulation through litigation that has harmed the American public, EPA Administrator Scott Pruitt issued an Agency-wide directive today designed to end "sue and settle" practices within the Agency, providing an unprecedented level of public participation and transparency in EPA consent decrees and settlement agreements.

"The days of regulation through litigation are over," said EPA Administrator Scott Pruitt. "We will no longer go behind closed doors and use consent decrees and settlement agreements to resolve lawsuits filed against the Agency by special interest groups where doing so would circumvent the regulatory process set forth by Congress. Additionally, gone are the days of routinely paying tens of thousands of dollars in attorney's fees to these groups with which we swiftly settle."

Over the years, outside the regulatory process, special interest groups have used lawsuits that seek to force federal agencies – especially EPA – to issue regulations that advance their interests and priorities, on their specified timeframe. EPA gets sued by an outside party that is asking the court to compel the Agency to take certain steps, either through change in a statutory duty or enforcing timelines set by the law, and then EPA will acquiesce through a consent decree or settlement agreement, affecting the Agency's obligations under the statute.

More specifically, EPA either commits to taking an action that is not a mandatory requirement under its governing statutes or agrees to a specific, unreasonable timeline to act. Oftentimes, these agreements are reached with little to no public input or transparency. That is regulation through litigation, and it is inconsistent with the authority that Congress has granted and the responsibility to operate in an open and fair manner.

“Sue and settle” cases establish Agency obligations without participation by states and/or the regulated community; foreclose meaningful public participation in rulemaking; effectively force the Agency to reach certain regulatory outcomes; and, cost the American taxpayer millions of dollars.

With today’s directive, Administrator Pruitt is ensuring the Agency increase transparency, improve public engagement, and provide accountability to the American public when considering a settlement agreement or consent decree by:

1. Publishing any notices of intent to sue the Agency within 15 days of receiving the notice;
2. Publishing any complaints or petitions for review in regard to an environmental law, regulation, or rule in which the Agency is a defendant or respondent in federal court within 15 days of receipt;
3. Reaching out to and including any states and/or regulated entities affected by potential settlements or consent decrees;
4. Publishing a list of consent decrees and settlement agreements that govern Agency actions within 30 days, along with any attorney fees paid, and update it within 15 days of any new consent decree or settlement agreement;
5. Expressly forbidding the practice of entering into any consent decrees that exceed the authority of the courts;
6. Excluding attorney’s fees and litigation costs when settling with those suing the Agency;
7. Providing sufficient time to issue or modify proposed and final rules, take and consider public comment; and
8. Publishing any proposed or modified consent decrees and settlements for 30-day public comment, and providing a public hearing on a proposed consent decree or settlement when requested.

The full directive and memo can be read [here](#).

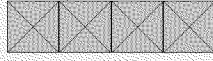
The video of the signing can be found [here](#). A downloadable b-roll version can be found [here](#).

EPA Administrator Scott Pruitt signs an Agency-wide directive to end “sue and settle” practices within the Agency.

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**To:** Jim Lakely[JLakely@heartland.org]  
**From:** Konkus, John  
**Sent:** Tue 10/10/2017 8:23:44 PM  
**Subject:** RE: Online Resources

Thank you Jim.

**From:** Jim Lakely [mailto:JLakely@heartland.org]  
**Sent:** Tuesday, October 10, 2017 4:22 PM  
**To:** Konkus, John <konkus.john@epa.gov>  
**Subject:** RE: Online Resources

Thanks, John. I've updated it with the signature of Tim Huelskamp, our new president. And it's dated yesterday ... though our first request was many weeks ago. It also references our previous request to have him speak at our 12<sup>th</sup> International Conference on Climate Change back in March, which he also had to decline. We've wanted to bring him in to speak for a loooooong time.

Thanks for your help!

Jim Lakely  
Director of Communications  
The Heartland Institute  
3939 North Wilke Drive

Arlington Heights, IL 60004

o: 312.377.4000  
c: 312-731-9364  
Twitter: @HeartlandInst

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**From:** Konkus, John [mailto:konkus.john@epa.gov]  
**Sent:** Tuesday, October 10, 2017 2:52 PM  
**To:** Jim Lakely  
**Subject:** RE: Online Resources

The scheduling department is asking if you can resend me the invitation as they can't seem to track it down. Glad I asked :/

**From:** Jim Lakely [<mailto:JLakely@heartland.org>]  
**Sent:** Tuesday, October 10, 2017 3:30 PM  
**To:** Konkus, John <[konkus.john@epa.gov](mailto:konkus.john@epa.gov)>  
**Subject:** Re: Online Resources

Thanks, John. We'll share some of that with our social media accounts.

While I've got you, Heartland has invited Scott Pruitt to be a keynote speaker at our [America First Energy Conference](#) on November 9 in Houston. I think it would be a great venue for the administrator to deliver a major address talking about the end of the Clean Power Plan. Do you know the status of our invitation and the chances of him accepting it?

Best,

Jim Lakely  
Director of Communications  
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c: 312-731-9364  
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**From:** "Konkus, John" <[konkus.john@epa.gov](mailto:konkus.john@epa.gov)>  
**Date:** Tuesday, October 10, 2017 at 2:24 PM  
**To:** "Konkus, John" <[konkus.john@epa.gov](mailto:konkus.john@epa.gov)>  
**Subject:** Online Resources

Here are some official EPA online resources promoting today's action on CPP. Feel free to repost and share.

EPA Homepage: <https://www.epa.gov/>

EPA Twitter: <https://twitter.com/EPA/status/917806465062260738>

EPA Air Office Twitter: <https://twitter.com/EPAair/status/917809327599181825>

Administrator Pruitt Twitter: <https://twitter.com/EPAScottPruitt/status/917802478845988864>

EPA Facebook: [https://www.facebook.com/EPA/?hc\\_ref=ARSr6RzCgQ0tB23ZzO-5z0iW-m1KLIZMzissW0s3FCtjh3iIDw2wkvU\\_0MkV3DUb3Kc&fref=nf](https://www.facebook.com/EPA/?hc_ref=ARSr6RzCgQ0tB23ZzO-5z0iW-m1KLIZMzissW0s3FCtjh3iIDw2wkvU_0MkV3DUb3Kc&fref=nf)

Administrator Pruitt Facebook:

<https://www.facebook.com/ajax/sharer?appid=586254444758776&s=100&u=https%3A%2F%2Fwww.epa.gov%2Ftakes-another-step-advance-president-trumps-america-first-strategy-proposes-repeal>

EPA YouTube: <https://www.youtube.com/watch?v=OpIAkmEWEYg&sns=tw>

EPA Instagram: <https://instagram.com/p/BaE8Q4QFvLs/>

John Konkus

Environmental Protection Agency

Deputy Associate Administrator for Public Affairs

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**Memorandum – November 6, 2017**

To: Civic and Business Leaders  
 From: Veronica Harrison, Director of Marketing

**Re: Civil dialogue on global warming**

Enclosed is a reprint of an interview with physicist William Happer, Ph.D., one of the most prestigious climate scientists in the world.

The interview was conducted in December 2016 by TheBestSchools.org, “an independent organization comprised of a dedicated group of educators, editors, authors, and web professionals who—like you—believe learning transforms lives for the better and should remain a lifelong pursuit.”



William Happer, Ph.D.

This is an absolutely remarkable interview. I hope you’ll make time to read it, and then pass it along to colleagues or friends who might also benefit from reading it. TheBestSchools, Heartland, and Dr. Happer would love to see you cite the interview in your own writing on this important issue.

Dr. Happer notes in response to one question:

Government actions to combat the non-existent problem have blighted the landscape with windmills and solar farms. They have driven up the price of electricity, which has disproportionately harmed the poorest segments of society. Government actions have corrupted science, which has been flooded by money to produce politically correct results. It is time for governments to finally admit the truth about global warming. Warming is not the problem. Government action is the problem. (p. 15)

Dr. Happer is the Cyrus Fogg Brackett Professor of Physics (emeritus) at Princeton University, former director of the Office of Energy Research, former director of research at the U.S. Department of Energy, and co-founder of Magnetic Imaging Technologies. He is also cofounder and chairman of the CO2 Coalition, the website of which is [co2coalition.org](http://co2coalition.org).

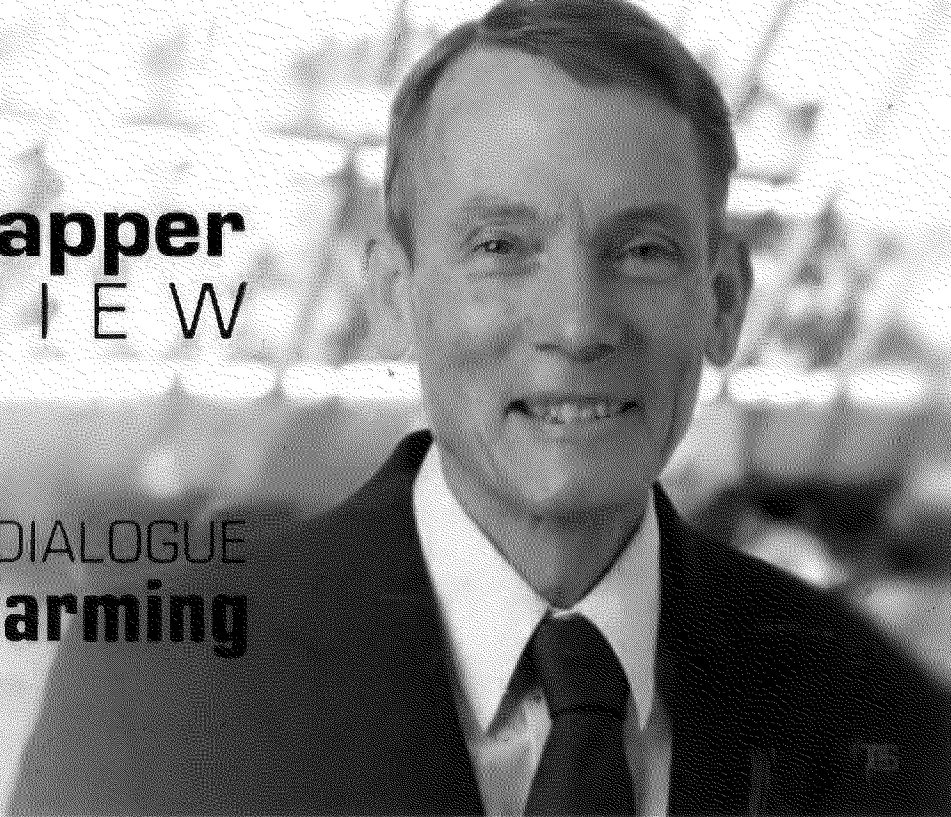
**We are eager to get your feedback on this publication and Heartland’s work on global warming generally.** Please take a few moments to complete our survey at <https://www.surveymonkey.com/r/HapperTestimony>. You can also call me at 312/377-4000 or contact me by email at [vharrison@heartland.org](mailto:vharrison@heartland.org) if you have any questions, concerns, or suggestions.

# William Happer

## INTERVIEW

### FOCUSED **CIVIL** DIALOGUE

## On Global Warming



#### **Tweet this!**

An interview with physicist William Happer on #ClimateChange <sup>1</sup>

*William Happer is the Cyrus Fogg Brackett Professor of Physics, Emeritus, in the Department of Physics at Princeton University. A long-time member of JASON, a group of scientists which provides independent advice to the U.S. government on matters relating to science, technology, and national security, Happer served as Director of the U.S. Department of Energy's Office of Science from 1991–1993.*

*Best known to the general public as a vocal critic of the U.N. IPCC “consensus” on global warming, he has been called frequently to give expert testimony before various U.S. congressional committees on the subject of global warming (climate change). In 2015, he found himself at the center of a new controversy involving a so-called “sting” operation organized by Greenpeace.*

*A list of some of Professor Happer's major research publications may be accessed [here](#).*

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<sup>1</sup> Reprinted with permission from TheBestSchools.org. The original interview appeared online here: <https://thebestschools.org/special/karoly-happer-dialogue-global-warming/william-happer-interview/>.

TheBestSchools.org is a leader in school rankings—K–12, college, postgraduate, online, and on-campus—providing millions of prospective students with the information they need to find the right school for them. TheBestSchools.org is an independent educational website whose staff and advisory board believe learning transforms lives for the better and should be a lifelong pursuit.





Good evening – I’m sorry I’m unable to join you today, but grateful to have the opportunity to address members and supporters of the Heartland Institute who have helped pave the way for robust policy debate and promoted pro-growth ideals for our country.

I would also like to thank the Heartland Institute’s newest President, Congressman Tim Huelskamp, for continuing to provide much-needed leadership and a voice for many Americans.

Congressman Huelskamp’s leadership is an example of the change that we are seeing across Washington. For the last ten months, our nation has embarked on a groundbreaking journey to shake-up the foundations of Washington to ensure those Americans who went ignored largely over the last decade are heard loud and clear.

We are bringing the voices of those previously ignored to Washington. We are working to implement the president’s vision. We are focused on greater leadership and greater results. At EPA, that means we are implementing President Trump’s vision for a pro-growth agenda that is also pro-environment.

Because we don’t need to put on jerseys anymore. We can be both pro-growth and pro-environment.

When I first started at EPA, President Trump asked that I embark on a thorough review of the Environmental Protection Agency’s priorities and implement the necessary reforms that reflect the needs of all Americans. He asked me to reflect on how to improve EPA for many – not just appease the and not interests of the elite few—as with the last administration.

To show his commitment to this ideal, one of his first actions after being inaugurated was to sign an Executive Order on Energy Independence, an order that established a policy for a robust energy sector, focused on economic growth and the rule of law.

Our country would no longer place limits on our energy sector and it sent a message that America is no longer in the business of picking winners and losers.

Last June, we saw the courage that encompasses this presidency as President Trump announced to the world that United States would withdraw from the Paris Climate Accord. The President made clear that this administration would not tolerate entering into agreements that benefit other countries while costing American jobs.

Had we stayed in the agreement, the consequences towards our country’s economy would have been devastating.

But in the White House Rose Garden that day, President Trump sent a clear message: foreign leaders would not dictate what is best for our country—that right remains with the American people.

Under the guidance of this administration we have already accomplished so much in helping implement what's best for our country.

Also, we can proudly declare: the war on coal is over.

As is the war on other energy sectors that were scrutinized by the previous administration. We are taking steps to propose to withdraw the so-called "Clean Power Plan" – a regulation that the previous Administration used to declare war on the coal sector.

With this proposed repeal, we are no longer going to push the bounds of the Agency's authority, ignore the role of state governments, and force millions of dollars of compliance costs on an industry – for little environmental gain.

And that's just the tip of the iceberg in what we've accomplished so far at EPA.

I've directed EPA to reprioritize the Agency. We are operating with states in mind, by engaging with state, local, and tribal partners. We are creating regulatory certainty that creates economic growth while also safeguarding human health. Because the one thing that all American businesses need is to know what is expected of them. That allows them to plan ahead, and develop the technologies and innovations that help us continue to lead as a country.

We saw the Agency stray away from these founding principles during the last Administration—especially in ignoring stakeholders in America's heartland who felt the brunt of EPA's overreach.

We continue to address this in many ways: from rescinding the overreaching "Waters of the U.S." rule that created unnecessary burdens for America's farmers and land owners to re-opening the mid-term evaluation for our nation's auto makers.

As we continue to re-evaluate the overreaching regulations of the previous administration, we are doing what they failed to do – talk directly with the people who are most affected by the regulatory overreach of this Agency.

I have – and continue to – travel the country to hear from all stakeholders. From farmers and ranchers to our nation’s energy producers – I have traveled to over 25 states in just the first few months that I have been in office.

And, we are bringing science to the forefront of our work at EPA. We have reformed our independent scientific advisory committees in a way that actually ensures that those advisory committees are independent from the Agency. We are increasing transparency, independence and geographic diversity – and we are doing so in a way that celebrates science. Because the science coming out of this Agency should be independent – not political science.

President Trump has proven to this country that real government reform is possible when tangible goals are set. In just the last 10 months, President Trump has delivered on his promise to place America’s interests first and provide a voice for America’s heartland. A voice that went largely ignored by the last administration’s EPA.

I look forward to working with Congressman Huelskamp, the Heartland Institute, and its supporters in the coming years to help continue implementing those goals.

Thank you and God bless.