


Nos. 12-1146, 12-1152, 12-1153, 12-1248,  
12-1254, 12-1268, 12-1269, 12-1272

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IN THE  
**Supreme Court of the United States**



UTILITY AIR REGULATORY GROUP et al.,  
*Petitioners,*

v

ENVIRONMENTAL PROTECTION AGENCY et al.,  
*Respondents.*

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**On Writ of Certiorari to the  
United States Court of Appeals  
for the District of Columbia Circuit**

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**BRIEF OF AMICI CURIAE  
SCIENTISTS AND ECONOMISTS IN SUPPORT OF  
PETITIONER SOUTHEASTERN LEGAL  
FOUNDATION, ET AL. AND STATE PETITIONERS**

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## **QUESTION PRESENTED**

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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FOUNDATION, ET AL. AND STATE PETITIONERS**

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**INTEREST OF AMICI CURIAE\***

Amici curiae are well-qualified climate scientists and economists. Amici include respected professors

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\* Pursuant to Sup. Ct. R. 37.6, counsel for amici hereby certifies that no counsel for a party to this action authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. The parties have consented to the blanket filing of amicus curiae briefs by filing letters evidencing their consent with the Clerk of Court.

and scientists who have worked for government agencies, universities, and businesses. These highly regarded scientists and economists have expertise in a wide array of fields implicated by this rulemaking, including climate research, weather modeling, physics, geology, statistical analysis, engineering, and economics. One or more of these scientists and economists has the relevant expertise to support every statement made in this brief. These scientists and economists all have publications in peer reviewed journals and are respected in their fields of expertise by their peers.

Amici wish to present to this Court scientific and economic data that bear directly on the underlying rulemaking. Specifically, Amici submit that EPA's reading of the Clean Air Act is foreclosed, and is unreasonable, arbitrary and capricious, when considered in light of the best available incontrovertible scientific and economic data.

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## SUMMARY OF ARGUMENT

When the scientific properties of the substances sometimes called “greenhouse gases” (GHGs) are considered in the context of the permitting requirements under the Clean Air Act (CAA) for stationary sources of pollution, it is impossible to conclude that these CAA provisions have anything to do with the regulation of the GHGs. Many including EPA itself have noted the absurdity of interpreting this statute in a way that would suddenly subject more than 6,000,000 buildings to permitting requirements if those requirements were applied to these gases as “pollutants.” But the problem is far broader: the entirety of the regulatory regime for stationary source prevention of significant deterioration (PSD) permits is literally nonsensical as applied to these gases, and CO<sub>2</sub> in particular.

The structure of the CAA PSD permitting requirements for stationary sources is fully oriented toward substances that vary in concentration from place to place depending on local emissions and for which the meeting of standards can be meaningfully evaluated by geographical area. That structure begins with the finding that “air pollution control at its source is the primary responsibility of States and local governments.” 42 U.S.C. § 7401(a)(3). It moves next to state-by-state “implementation plan[s]” to prevent significant deterioration of air quality “in each region.” 42 U.S.C. § 7471 (emphasis added). States are to designate “areas” into prescribed regulatory categories. 42 U.S.C. § 7474 (emphasis added). The criteria for granting or denying permits are specified by these “areas.” as for example the

“concentration for any pollutant in any area,” “analysis of any air quality impacts projected for the area,” and “air quality in any area which may be affected by emissions from such source.” 42 U.S.C. § 7475(a) (emphasis added). Monitoring of compliance is to be done at the “site and in areas which may be affected” by a facility’s emissions. 42 U.S.C. § 7475(e) (emphasis added).

This permitting regime based on states and geographical areas within the states makes no sense whatsoever when one attempts to apply it to the alleged harmful properties of CO<sub>2</sub>. In its Endangerment Finding, EPA does not even attempt to tie the effects of CO<sub>2</sub> to states or “areas” within them, as it would need to do if it were applying the CAA. Instead, EPA relies on a mechanism whereby CO<sub>2</sub> brings about global warming through its accumulated effects in the troposphere in the tropics, far from any emitting source in the United States. *See Endangerment and Cause or Contribute Findings for Greenhouse Gasses Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66496, 66518 (Dec. 15 2009); *see also EPA’s Response to Public Comments*, 74 Fed. Reg. 18886, Response 3-7 (Apr. 24, 2009). Whatever so-called “greenhouse effect” CO<sub>2</sub> may cause, let alone any counteraction of that effect by other factors such as clouds or solar activity, it occurs on a world-wide basis where variations of concentration of CO<sub>2</sub> in some designated domestic CAA attainment area in the United States have no relevance. Until very recently scientists did not even attempt to measure changes over time in CO<sub>2</sub> concentration at various altitudes around the globe; rather, they relied on land surface based



observatories such as that located on the side of the Mauna Loa volcano in Hawaii. At present there is not even any data as to CO<sub>2</sub> concentrations broken down by the “attainment area” scheme of the CAA.

Thus the CAA stationary source PSD permitting provisions literally foreclose the interpretation that they could possibly have been intended to deal with CO<sub>2</sub>—a conclusion that follows from simple logic and does not require any delving into the details of the science. And that is before even considering whether it could be reasonable to interpret these portions of the CAA to suddenly transfer immense powers to EPA that no one previously thought it had in the 35-plus years this statute has existed. It is for this Court to consider the reasonableness of the interpretation that EPA would impose, and in that consideration it is highly relevant whether this “triggering” rule is a valid exercise of powers Congress intended to convey, or rather is a massive seizure of illegitimate power masquerading as a mere technical statutory interpretation.

There is no avoiding that this rule is a massive seizure of power, indeed likely far and away the largest illegitimate seizure of power by any government agency ever. Unlike other “pollutants” subject to the CAA, CO<sub>2</sub> is not some incidental impurity or imperfection in the processes of civilization, but rather is fundamental to all processes of life and equally fundamental to the large majority of energy generation that drives our and the global economy. The emission of CO<sub>2</sub> from stationary sources occurs in the processes by which the large majority of our electricity is generated; in the

heating, cooling and lighting of our homes, offices, schools, hospitals and stores; in our use of computers and the internet; in the production and preparation of food; and in nearly everything else we do. Under the guise of a technical statutory interpretation, the EPA now asserts it has discovered a central role for itself to control and dictate all aspects of our lives under an over 30-year-old statutory provision never previously thought remotely to cover this subject matter.

If there has ever been an issue on which it is critical for this Court to scrutinize whether the agency actually has a basis for what it is doing, this is it. Yet the fact is that nothing this agency is doing on this rulemaking withstands any scrutiny at all. And it is not just that the CAA's PSD provisions cannot possibly be read to cover CO<sub>2</sub>. The entire hypothesis on which EPA has purported to find that CO<sub>2</sub> emissions supposedly "endanger" human health and safety has been falsified by real world evidence. As the most important example, EPA asserts as its central "line of evidence" for CO<sub>2</sub> "endangerment" that CO<sub>2</sub> will warm the surface temperature of the earth through a mechanism by which rising CO<sub>2</sub> concentrations in the troposphere in the tropics block heat transfer into outer space. *See* 74 Fed. Reg. at 66518 (Dec. 15 2009). If this theory were right, there would necessarily be an observable "hot spot" in the tropical upper troposphere. But this tropical "hot spot" has been proven not to exist. This and the other main instances of the falsification of EPA's purported "evidence" are discussed in Section IV below. The basis that EPA has for this rulemaking is no basis. The words "arbitrary and capricious" do not do

justice. This is a naked power grab of the most cynical sort.

This Court should not minimize the importance to the citizens of this country, and indeed the world, of EPA's agenda to restrict the burning of carbon-based (fossil) fuels. Enabling the poor to rise up from poverty turns on the availability of cheap energy for those who currently don't have it or struggle to afford it. Fossil fuel energy is the cheapest energy and the most reliable energy. Increased CO<sub>2</sub> in the atmosphere also enables increased food production using less fresh water. EPA's agenda is to make fossil fuel energy less available and more expensive. This means keeping the poor in poverty. Before an agency would go in that direction, one would think it would be sure of its scientific basis, but this agency is only interested in its accretion of power. For all who have carefully examined the three lines of evidence claimed to support EPA's Endangerment Finding, this purported rulemaking is a terrible embarrassment to the United States Government and to EPA. This Court has this one opportunity to avoid being a party to the embarrassment.



## ARGUMENT

### I. THE GREENHOUSE EFFECT OF GHGS, IF ANY, COULD NOT OPERATE ON A LOCAL OR REGIONAL BASIS, BUT RATHER WORLDWIDE, IF AT ALL.

The substances at issue in this rulemaking are sometimes referred to as “greenhouse gases,” that is, gases that are posited to warm the surface temperature of the earth by emitting back to the surface some radiation that would otherwise escape into space. Nothing about the operation of such a process can be tied to any one or more CAA “areas” within the United States where such gases may be emitted by some stationary source.

In its own Endangerment Finding, EPA cites so-called “lines of evidence” by which it attempts to demonstrate that GHGs, especially CO<sub>2</sub>, have dangerous health and welfare effects through the mechanism of causing the global average surface temperature (GAST) of the earth to increase. 74 Fed. Reg. at 66518 (Dec. 15 2009). As its principal line of evidence, EPA asserts that the effects of CO<sub>2</sub> emitted throughout the world are distinctly seen in the upper troposphere of the tropics, and created by the absorption and re-emission of earth radiation that would otherwise escape to space, thus causing the proposed warming.

This process is fundamentally different from the mechanisms applicable to the other substances hitherto designated as “pollutants” under the CAA. The other pollutants operate to endanger health by their effects at particular places, as by being

dangerous to breathe, or by causing smog, when present in the atmosphere at concentrations above specified levels. They also are removed from the atmosphere through local or regional processes such as falling to the ground (like particulates) or through rainfall (like  $\text{SO}_2$  and  $\text{NO}_x$ ) or through reaction with other compounds in the atmosphere or sunlight (like various volatile organic compounds). Thus a system of local and regional attainment areas and of state and local responsibility for enforcement makes eminent sense.

But  $\text{CO}_2$  is fundamentally different from these substances in multiple ways, including in its properties while in the atmosphere, in the reason why it is claimed to be a “danger,” and in the ways it leaves the atmosphere.  $\text{CO}_2$  is not dangerous to breathe in the slightest even at concentrations an order of magnitude greater than what has been shown to exist anywhere on earth. It is completely colorless and odorless, and does not form smog or leave soot. Just because a large amount of  $\text{CO}_2$  is emitted in one land area does not even mean that the atmospheric concentrations of  $\text{CO}_2$  will be elevated in the atmosphere over that area or any neighboring area. Indeed, recent measurements of  $\text{CO}_2$  concentrations have shown that concentrations are higher in air over particularly warm water areas and sometimes low over industrial areas.  $\text{CO}_2$  is not removed from the atmosphere in any material way by local processes, but rather mixes throughout the atmosphere on a global basis irrespective of where it may have been emitted. It is then subject to a worldwide “carbon cycle” where it can be removed from the atmosphere by being taken up by

photosynthesis from plants anywhere in the world, or by absorption into the oceans or other bodies of water.

Atmospheric CO<sub>2</sub> concentrations vary from place to place around the globe, *see MACC Delayed mode Global Monthly Mean June 2009 Surface Carbon Dioxide*, Monitoring Atmospheric Composition & Climate, [http://www.gmes-atmosphere.eu/d/services/gac/delayed/monthly\\_fields](http://www.gmes-atmosphere.eu/d/services/gac/delayed/monthly_fields) (last visited Dec. 15, 2013), but nothing about that variation goes to any adverse local health effect (since CO<sub>2</sub> has no local health effects). Until very recently scientists did not even attempt to measure changes over time in atmospheric CO<sub>2</sub> concentration at various altitudes around the globe, but rather relied on land surface positioned observatories such as that located on the side of the Mauna Loa volcano in Hawaii.

## **II. THE REGULATORY REGIME OF THE CAA FOR STATIONARY SOURCES OF POLLUTION TO PREVENT SIGNIFICANT DETERIORATION OF AIR QUALITY MAKES NO SENSE AS APPLIED TO GHGS.**

One could say that regulating GHGs under the PSD provisions for stationary sources of the CAA would be like trying to put a square peg into a round hole, but that would be a vast understatement. It is more like trying to put a mile wide square peg into a one-eighth inch round hole. The two just have nothing to do with each other. It is not possible to read the stationary source PSD provisions of the CAA and think that they could be meant to regulate GHGs.

One obvious respect in which the provisions of the CAA cannot be applied to GHGs as Congress wrote them is the definition of a “major emitting facility” potentially requiring a permit as one that emits either 100 or 250 tons of a pollutant in a year (depending on the type of facility). 42 U.S.C. § 7479. As EPA itself recognizes, faithful application of this statutory requirement “would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the Title V program.” 75 Fed. Reg. 31,514; 31,533 (June 3, 2010). While most private homes would be under the thresholds, essentially all larger buildings such as schools, hospitals, and office buildings would require permits, not to mention virtually all sources of meaningful amounts of economic production, such as factories and farms. To have CO<sub>2</sub> regulated as a “pollutant” under these provisions would be to transfer to EPA essentially complete control over who gets to operate any business or economic activity of any meaningful size anywhere in the United States.

These absurd results are not restricted to only CO<sub>2</sub> among the supposed GHGs. For example, methane can be emitted in amounts in excess of the 100/250-ton threshold by such things as wetlands, rice farms, livestock herds and landfills, so imposing a GHG permitting regime on the assumption that methane is a danger could lead to draining of wetlands, the end of rice agriculture, the mass slaughter of livestock, and so on.

EPA purports to solve this conundrum as to CO<sub>2</sub> by its so-called “tailoring” rule. But nothing in the

statute gives EPA the authority to change the statutory thresholds. Moreover, if EPA now claims the authority to change the thresholds to raise them, what is to stop it later from changing the thresholds again to lower them, when its agenda has changed to clamping down on any and all economic activity of those it does not like? Indeed, if EPA can change the statute's 100/250-tons-per year criterion to whatever other numbers it likes, what is to stop it even from lowering the thresholds below the 100/250-tons-per year if that is its whim and it wants to go after even private householders?

And the 100/250-ton thresholds are the least of the problem when attempting to apply the CAA PSD regime to GHGs. The entire structure of the CAA stationary source regulatory regime is based on the concept that the regulated pollutants have their effects in areas at or near the source of their emission and can be regulated as such. Everything about the regulatory scheme starts from and turns upon "areas" or "regions" where pollutants can be monitored and where they have their effects. Thus the stationary source PSD scheme begins with a state-by-state process of developing what are called "implementation plans" for the prevention of significant deterioration of air quality "in each region." 42 U.S.C. § 7471 (emphasis added). Under Section 7474(a), the states then designate "areas" into specified categories. (emphasis added). These "areas" are then evaluated as to whether they are "attainment areas" or "non-attainment areas" with respect to National Ambient Air Quality Standards (NAAQS) set by EPA. 42 U.S.C. § 7407(d) (emphasis added). The stationary source PSD scheme then only



applies in the “attainment areas.” 42 U.S.C. § 7471 (emphasis added).

The requirements and means for obtaining a PSD permit, which are found in 42 U.S.C. § 7475(a), all arise only in “areas” to which the provisions apply and turn on the concentration and effects of each pollutant in these “areas.” Thus the preamble to Section 7475(a) states that the permitting requirement is applicable “in any area to which this part applies . . . .” (emphasis added). Section 7475(a)(3) calls upon an owner seeking a permit to demonstrate that his facility “will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies . . . , [or] (B) national ambient air quality standard in any air quality control region . . . .” (emphasis added). Section 7475(a)(6) directs that there be “an analysis of any air quality impacts projected for the area as a result of growth associated with such facility.” (emphasis added). Section 7475(a)(7) requires the owner of the facility “to conduct such monitoring . . . to determine the effect which emissions from any such facility may have . . . on air quality in any area which may be affected by emissions from such source.” (emphasis added).

Section 7475(e) deals with monitoring of air quality by owners of permitted facilities. Again, the monitoring turns on “areas” that may be affected by such facility. The section directs that there be “an analysis . . . of the ambient air quality at the proposed site and in areas which may be affected by

emissions from such facility for each pollutant subject to regulation . . . .” (emphasis added).

Attempting to apply any of these provisions to CO<sub>2</sub> (or for that matter methane) immediately reveals the absurdity of the exercise. For example, does it make any possible sense to think that Congress intended to require every prospective owner of a CO<sub>2</sub> emitting facility to submit an analysis of the effects of his incremental CO<sub>2</sub> emissions on local CO<sub>2</sub> concentrations, when those concentrations are effectively a worldwide phenomenon? Did Congress intend to order every prospective permittee to monitor CO<sub>2</sub> at his site and in his area, when the U.S. government itself only monitors long-term CO<sub>2</sub> concentrations from a few places thousands of miles apart? And, as mentioned above, CO<sub>2</sub> is not uniformly distributed in the atmosphere. No amount of contortions can ever make this gigantic square peg fit into this tiny round hole.

### **III. THE PRESENT RULEMAKING IS NOT A MINOR OR TECHNICAL STATUTORY INTERPRETATION, BUT RATHER IS A TOTAL REWRITE OF THE STATUTE THAT SHOULD NOT BE ENTITLED TO DEFERENCE.**

While EPA will undoubtedly seek “deference” to its statutory interpretation under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), such deference finds its limit where “the statutory text forecloses the agency’s assertion of authority.” *City of Arlington, Tex. v. FCC*, 133 S.Ct. 1863 (2013). Even where deference is accorded to the agency’s interpretation under *Chevron*, the

appropriate inquiry for the reviewing court is “whether the Administrator’s [interpretation] . . . is a reasonable one.” *Chevron*, 467 U.S. at 845. When an assertion of regulatory authority is totally at odds with an overall statutory structure, let alone specific provisions, this Court has not hesitated to rein in an agency’s overstepping of its bounds. *See, e.g., FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000).

Here the Administrator’s interpretation is both foreclosed by the terms of the statute (as demonstrated in the previous section), but is also completely unreasonable. While the so-called “triggering” issue masquerades as a detailed technical question of statutory interpretation, in fact it is anything but. This seemingly innocuous rulemaking seeks to transform the CAA from a statute that gives EPA authority to minimize the unhealthy impurities and unwanted by-products of the processes of production into a statute that gives EPA massive control over huge swaths of previously free human and natural activity.

CO<sub>2</sub> is not in any sense an unwanted by-product of the production of useful energy. Rather, the combustion of carbon based fuels to produce CO<sub>2</sub>, and the capture of the energy released by that process, is the whole idea. While a modest portion of energy production in the United States (and other countries in general) comes from non-carbon sources (nuclear, wind, solar, hydro), the proportion that comes from fossil fuels in the U.S. is approximately 82 percent. *See Monthly Energy Review, Table 1.3 (Nov. 2013)*, U.S. Energy Info. Admin., available at <http://www.>

[eia.gov/totalenergy/data/annual/index.cfm#summary](http://www.eia.gov/totalenergy/data/annual/index.cfm#summary) (last visited Dec. 15, 2013). And the other sources of energy are either far more expensive than fossil fuels (nuclear, wind, solar) and/or only available in limited amounts that cannot supply more than small portions of total energy demand (wind, solar, hydro). Because they are the cheapest and most available source of energy for most purposes, fossil fuels are used to produce by far the majority of energy throughout our economy. With regard to stationary sources, about two-thirds of electricity comes from fossil fuels, as well as nearly all energy for certain large-scale manufacturing processes (e.g., steel), and for heating houses, apartment complexes, offices, schools, hospitals, shopping centers, entertainment venues, and everything else. *See Monthly Energy Review, Table 7.2a (Nov. 2013)*, U.S. Energy Info. Admin., at <http://www.eia.gov/totalenergy/data/annual/index.cfm#summary> (last visited Dec. 15, 2013).

Thus this rulemaking seeks to effect a massive transformation of our economy and of the relationship between the people and the government under a statute that cannot possibly be read to call for that result. These are exactly the circumstances where deference should not be accorded.

Given the huge consequences of this rulemaking for the American people, the consideration of the reasonableness of EPA's action turns both on the consistency of the action with the text and structure of the statute and also on the scientific basis for EPA's course of conduct. Amazingly, the scientific basis is also completely lacking.

#### **IV. THE LINES OF SCIENTIFIC EVIDENCE THAT EPA HAS RELIED ON FOR ITS ENDANGERMENT FINDING EITHER HAVE BEEN FALSIFIED OR ARE NOT EVIDENCE AT ALL.**

In considering the degree of deference to give to EPA in its statutory interpretation as to “triggering,” it is highly relevant that EPA’s Endangerment Finding, which is the essential predicate before the next step of “triggering” can occur, is itself completely devoid of scientific basis. Amici have previously submitted extensive briefing on this subject in the court below as well as to this Court in connection with the petitions for certiorari. Therefore, we will only briefly summarize here the glaring deficiencies in EPA’s lines of evidence supporting its Endangerment Finding, with references to other sources where more extensive support can be found. EPA purports to rely on three lines of scientific evidence for its Endangerment Finding. 74 Fed. Reg. at 66518 (Dec. 15, 2009). Each will be considered in turn.

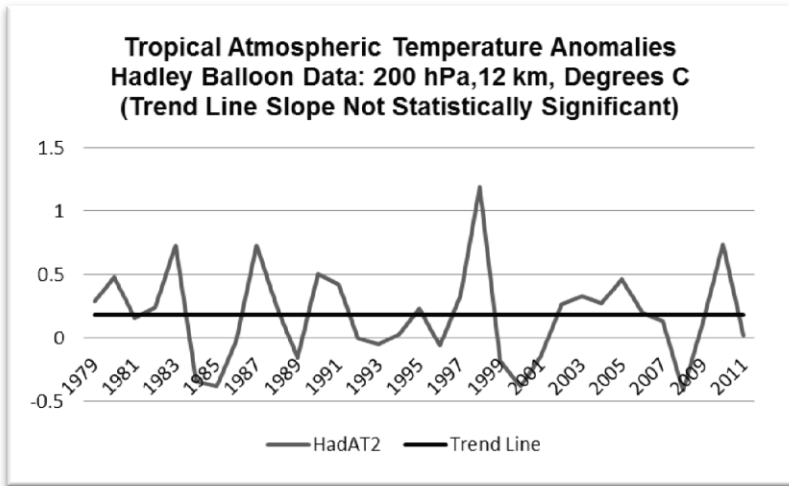
##### **A. EPA’s First Line of Evidence: Tropical Hot Spot Theory**

The first line of evidence is what EPA calls its “basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system.” 74 Fed. Reg. at 66518 (Dec. 15, 2009). This is EPA’s GHG Fingerprint (or Hot Spot) Theory, that in the tropics the upper troposphere is warming faster than the lower troposphere, and the lower troposphere is warming faster than the surface, all

due to rising global atmospheric CO<sub>2</sub> concentrations. See 74 Fed. Reg. at 66522 (Dec. 15, 2009); see also *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences*, U.S. Climate Change Science Program and the Subcommittee on Global Change Research at 112-116 (Apr. 2006) available at <http://library.globalchange.gov/products/event-resources/planet-under-pressure/2012/sap-1-1-temperature-trends-in-the-lower-atmosphere-steps-for-understanding-reconciling-differences> (last visited Dec. 15, 2013). But that theory is totally at odds with multiple robust, consistent, independently derived empirical data sets that show no statistically significant positive (or negative) trend in temperature and thus no statistically significant differences in trend line slopes by altitude.

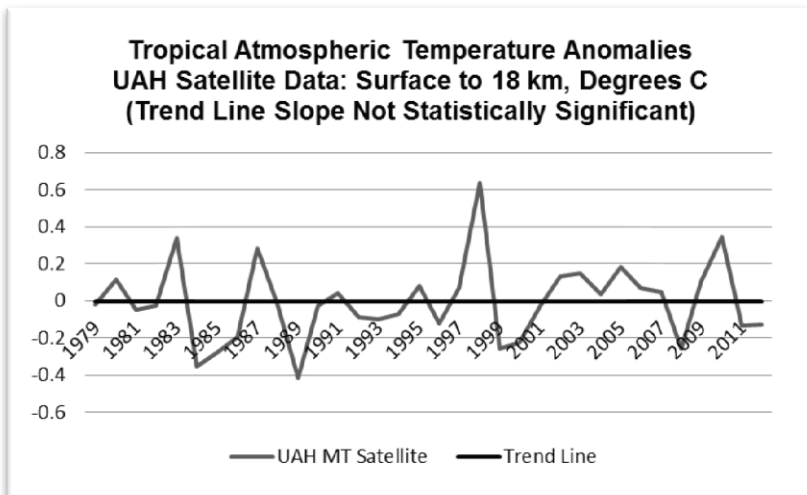
For example, balloon data from the U.K.'s Met Office Hadley Centre (Figure 1A), satellite data regarding temperature in the tropical troposphere from the University of Alabama in Huntsville (UAH) (Figure 1B), and central Pacific Ocean tropical temperature data from the National Oceanic and Atmospheric Administration (NOAA) (Figure 2) are shown below. None of the three has a statistically significant trend line slope. That is, their trend lines are all flat. All temperature data are shown as "anomalies," where anomalies are computed by subtracting a base period average from actual annual temperature values, both measured in degrees Celsius.

FIGURE 1A



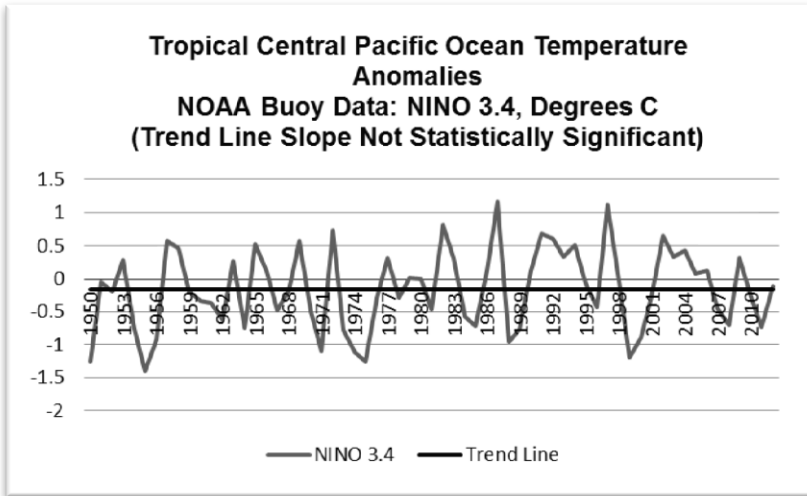
Source: *Global Means Anomaly Series*, Met Office, available at [http://www.metoffice.gov.uk/hadobs/hadat/hadat2/hadat2\\_monthly\\_global\\_mean.txt](http://www.metoffice.gov.uk/hadobs/hadat/hadat2/hadat2_monthly_global_mean.txt) (last visited Dec. 15, 2013).

FIGURE 1B



Source: *Monthly Means of Mid-Troposphere MT5.5*, Univ. of Ala. in Huntsville, available at [http://vortex.nsstc.uaah.edu/data/msu/t2/tmtglhmm\\_5.5.txt](http://vortex.nsstc.uaah.edu/data/msu/t2/tmtglhmm_5.5.txt) (last visited Dec. 15, 2013).

**FIGURE 2**



Source: *Tropical Center Pacific Ocean Temperature Anomalies NOAA Buoy Data: NINO 3.4, Degrees C*, Univ. of Ala. in Huntsville, available at <http://www.cpc.ncep.noaa.gov/data/indices/ersst3b.nino.mth.81-10.ascii> (last visited Dec. 15, 2013).

All three figures above show data through the most recent period available, 2012. In December 2009, when EPA issued its Endangerment Finding, the trends in all three were also flat based on annual data through 2008. The more recent data simply reconfirm those three flat trend facts. For EPA's assumed theory to be valid, all three temperature trend lines would have to be upward sloping, but with the Upper Troposphere Trend Line (Figure 1a) steeper than the Mid-troposphere Trend Line (Figure 1b), and that trend line steeper than the Pacific Ocean Temperature Trend Line (Figure 2).



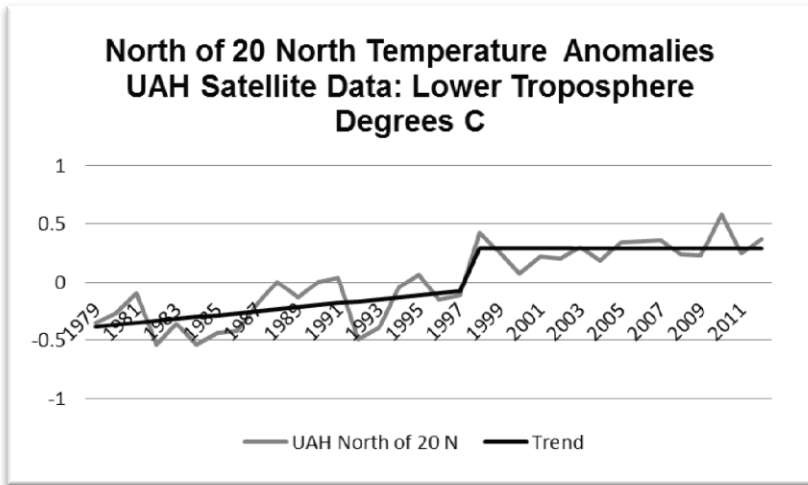
There is no longer any doubt that the purported tropical “hot spot” simply does not exist. Thus, EPA’s theory as to how CO<sub>2</sub> affects global average surface temperature—EPA’s first line of evidence—has been falsified.

**B. EPA’s Second Line of Evidence: Purported Unusual Rise in Global Average Surface Temperature.**

EPA’s second line of evidence is its claim that Global Average Surface Temperature (GAST) has been rising in a dangerous fashion over the last fifty years. 74 Fed. Reg. at 66518 (Dec. 15, 2009). EPA goes on to conclude that the alleged rise was in large part due to human-caused increases in atmospheric CO<sub>2</sub> concentrations. *Id.* But the purported “global warming” has not been global and has not set records in the regions where the most significant warming has occurred. For example, over the relevant time period, while the Arctic has warmed, tropical oceans had a flat trend, and the Antarctic was slightly cooling. *Id.* at 14-15. The most significant warming during this period occurred in the Northern Hemisphere, north of the Tropics (*i.e.*, north of 20° north). Figure 3 depicts UAH satellite data showing that warming:

[see Figure 3 on following page]

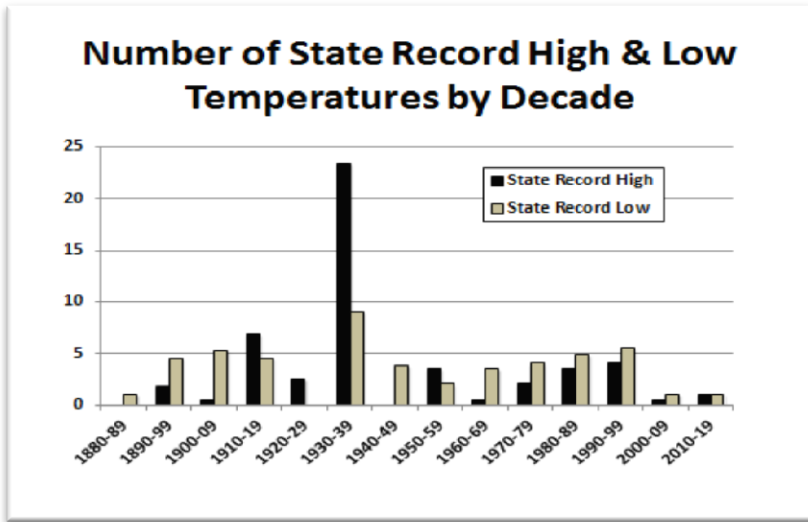
FIGURE 3



Source: *North of 20 North Temperature Anomalies UAH Satellite Data: Lower Troposphere Degrees C*, National Space Sci. & Tech. Ctr. available at [http://vortex.nsstc.uah.edu/data/msu/t2lt/uahncdc\\_lt](http://vortex.nsstc.uah.edu/data/msu/t2lt/uahncdc_lt) (last visited Dec. 15, 2013).

As is obvious in Figure 3, however, even though the Northern Hemisphere north of the Tropics has warmed since 1979, temperatures have leveled off since 2000. That leveling off should have been obvious to EPA prior to its Endangerment Finding in late 2009. Further, over the last 130 years, the decade of the 1930s still has the most currently held high-temperature records for States within the United States, as shown in Figure 4 below. Fully 70 percent of the current high-temperature records remain before 1940. And, in every decade from 1960 to 2010, there were considerably more cold records set than hot records.

FIGURE 4



Source: *State Climate Extremes Committee, Records*, NOAA National Climatic Data Ctr., available at <https://www.ncdc.noaa.gov/extremes/scec/records> (last visited Dec. 15, 2013).

These data thus demonstrate that EPA’s second line of evidence—the claim that there has been unusual warming on a global, that is, worldwide, basis over the past several decades—is invalid.

### C. EPA’s Third Line of Evidence: Climate Models

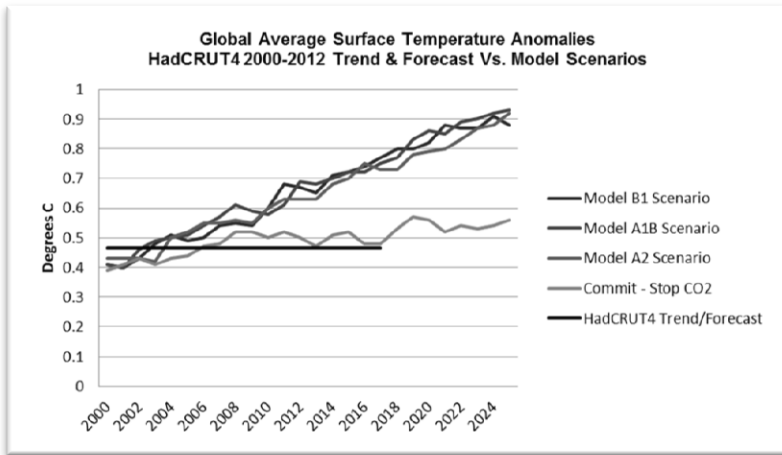
EPA’s supposed third line of evidence in support of the Endangerment Finding is in fact not a line of evidence at all, but rather just an assertion that unproven and non-validated models of how climate is supposed to behave should be given credence for policy-making purposes. 74 Fed. Reg. at 66518 (Dec. 15, 2009). In fact the models have been thoroughly

invalidated by the failure of global temperatures to warm as predicted over the course of the past 15 years.

For its models, EPA has entirely relied on the work of the UN's IPCC, whose models are in turn predicated on the discredited and falsified Tropical Hot Spot theory discussed above. *See Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, Climate Change Div. Office of Atmospheric Programs, E.P.A., at ES 3 (Dec. 7, 2009), available at <http://www.epa.gov/climatechange/endangerment/> (last visited Dec. 15, 2013); *Contribution of Working Group I: The Physical Science Basis, 9.2.2*, Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change 2007 at 674-676, available at [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) (last visited Dec. 15, 2013). Those models fail the required standard model-validation and forecast-reliability tests.

The models on which EPA relied all forecast rising temperatures assuming continued increases in CO<sub>2</sub> emissions. Figure 5 below shows four forecast scenarios (in various shades of grey). Three of them call for a dramatic rise in GAST because they assume CO<sub>2</sub> levels will rise rapidly. The “Commit-Stop CO<sub>2</sub>” scenario portrayed in the chart (in the lightest grey) assumes a draconian curtailment of worldwide CO<sub>2</sub> emissions at the year 1992 level—which has not occurred. All of these forecasts were based on models assuming the still missing greenhouse gas “fingerprint” or hot spot in the tropics.

FIGURE 5



Source: *Contribution of Working Group I: The Physical Science Basis, 9.2.2*, Intergovernmental Panel on Climate Change, Fourth Assessment Report: Climate Change 2007 at 674-676, available at [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) (last visited Dec. 15, 2013); see also *Met Office Hadley Centre Observations Datasets*, Met Office available at <http://www.metoffice.gov.uk/hadobs/hadcrut4/data/current/download.html> (last visited Dec. 15, 2013).

A model must be regarded as invalidated when its forecasts prove inaccurate, and these models' forecasts have not been accurate. Figure 5 contrasts the forecasts through 2025 with the actual trend line of global average surface temperature (GAST) data from the Hadley Centre and the Climatic Research Unit, University of East Anglia (CRU) for 2000-2012 (identified as "HadCRUT4 Trend/Forecast" on the chart). The GAST data up to 2008 (which also had a flat trend line) was, of course, available to EPA, and in fact both EPA and IPCC heavily relied on the Hadley Centre CRU's temperature data, analysis, and forecasts. See *Technical Support Document for*

*Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, Climate Change Div. Office of Atmospheric Programs, E.P.A., at 28-29 (Dec. 7, 2009), available at [http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment\\_TSD.pdf](http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf) (last visited Dec. 15, 2013). Notably, the Hadley Centre recently announced a forecast that this trend line will remain flat for another five years. See *Decadal Forecast*, Met Office, available at <http://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/long-range/decadal-fc> (last visited Dec. 15, 2013). Thus, in Figure 5, the Trend/Forecast trend line is shown as flat through 2017.

Critically, the Hadley Centre CRU GAST Trend/Forecast line lies below even the Commit-Stop CO<sub>2</sub> scenario, in which worldwide CO<sub>2</sub> emissions are assumed to be held to 1992 levels. Since 1970, atmospheric CO<sub>2</sub> concentrations are up 21 percent. See *Annual Mean Growth Rate for Mauna Loa, Hawaii*, Earth Sys. Research Lab., Global Monitoring Division, available at [ftp://ftp.cmdl.noaa.gov/ccg/co2/trends/co2\\_annmean\\_mlo.txt](ftp://ftp.cmdl.noaa.gov/ccg/co2/trends/co2_annmean_mlo.txt) (last visited Dec. 15, 2013).

As Figure 5 plainly demonstrates, the models EPA relied on as its third line of evidence are invalid. That is not surprising because EPA never carried out any published forecast reliability tests. And, as discussed above, EPA's assumed Greenhouse Gas Fingerprint Theory simply does not comport with the real world. Thus, models based on that theory should never have been expected to be valuable for policy analysis involving an Endangerment Finding that so

critically affects American energy, economic, and national security.

## V. INEXPENSIVE HYDROCARBON-BASED ENERGY IS CENTRAL TO ECONOMIC GROWTH AND TO ENABLING THE POOR TO RISE UP FROM POVERTY

The “triggering” determination at issue here is at the core of EPA’s current program to restrict hydrocarbon based energy and make it more expensive and less available. The Endangerment Finding and subsequent triggering determination came about when Congress failed to pass President Obama’s proposed “cap and trade” legislation during his first term. As described by the President during his 2008 campaign, that legislation was specifically intended to reduce carbon emissions by forcing a massive increase in the price of energy: “Under my plan . . . electricity rates would necessarily skyrocket.” Erica Martinson, *Uttered in 2008, Still Haunting Obama in 2012*, Politico (Apr. 5, 2012, 11:37 PM), <http://www.politico.com/news/stories/0412/74892.html>. Adding CO<sub>2</sub> to the stationary source PSD permitting program seeks to accomplish the same result through forcing the massive closure of coal based power plants (a process already well under way) and hindering and delaying the construction and operation of power sources that use the cheapest forms of energy, which are hydrocarbon based energy. And EPA seeks to achieve that result without new legislation, and instead as a supposed interpretation of over 35-year-old legislation never previously thought to cover this subject matter.

Meanwhile the United States is on the cusp of an energy revolution of hydrocarbons from unconventional oil and natural gas sources that is having the effect of rapidly increasing the supply and decreasing the price of carbon-based energy. *See, e.g., America's New Energy Future: The Unconventional Oil and Gas Revolution and the U.S. Economy*, Volumes I, II, and III, IHS (September 2013). IHS sees the energy revolution as adding millions of jobs and hundreds of billions of dollars annually to the U.S. economy, all based on burning hydrocarbon fuels and emitting CO<sub>2</sub> into the atmosphere. EPA looks upon this prospect with horror, and the stationary source PSD permitting program coupled with EPA's plans for CO<sub>2</sub> emissions standards is precisely the means it sees available to stop it before it can get too far.

Arbitrarily raising the price of energy is the same thing as purposely impoverishing the American people. It is shocking that our government would intentionally pursue such a goal, particularly without any scientific basis whatsoever to do so, as discussed in Point IV above. It is equally shocking that the executive branch, without supporting legislation, would decide that accomplishing its energy/climate goals, not endorsed by Congress or the general public, is so sacrosanct that it must take a completely inapplicable law and twist it into a pretzel in the desperate but ultimately futile effort to find a basis to raise the price and limit the availability of energy for the American people. And meanwhile CO<sub>2</sub> is a worldwide phenomenon, and other countries like China and India have no plans meaningfully to curtail their rapidly increasing



emissions. Unilateral CO<sub>2</sub> emission control by the United States promises to damage the economy of the United States without any benefits.

In fact, increasing CO<sub>2</sub> in the atmosphere facilitates achieving the goal of raising the poor out of poverty through increasing food production. CO<sub>2</sub> is the primary “food” utilized by the vast majority of plants to produce the organic matter out of which they construct their tissues, which subsequently become the ultimate source of food for nearly all animals and humans. Consequently, the more CO<sub>2</sub> there is in the air, the better plants grow, as has been demonstrated in literally thousands of laboratory and field experiments. See Craig Idso & S. Fred Singer, *Climate Change Reconsidered: 2009 Report of the Nongovernmental Panel on Climate Change (NIPCC)*, Chapter 7 (Chicago, IL 2009). And the better plants grow, the more food there is available to sustain the entire biosphere.

At least since the International Conference on Rising Atmospheric Carbon Dioxide and Plant Productivity of 1983, it has been known that a doubling of the air’s CO<sub>2</sub> concentration would likely lead to a 50% increase in photosynthesis and a doubling of water use efficiency in many types of plants, as well as significant increases in biological nitrogen fixation in almost all biological systems, and an increase in the ability of plants to adapt to a variety of environmental stresses.

Availability of potable water for irrigation is a key constraint on food production in the United States and many other countries; yet studies conducted on hundreds of different plant species

demonstrate the very real and measurable growth-enhancing, water-saving, and stress-alleviating advantages that rising atmospheric CO<sub>2</sub> concentrations bestow upon Earth's plants. See Craig Idso & S. Fred Singer, *Climate Change Reconsidered: 2009 Report of the Nongovernmental Panel on Climate Change (NIPCC)*, Ch. 7 (2009); Craig Idso & Sherwood Idso, *The Many Benefits of Atmospheric CO<sub>2</sub> Enrichment* (2011).

All these benefits largely flow to those who otherwise struggle to afford an adequate supply of food, in other words, the poor. The bottom line here is that rising atmospheric CO<sub>2</sub> levels yield very significant net benefits to society. In making its Endangerment Finding, EPA did not even consider these benefits. That total dereliction of duty calls into question the reasonableness of its entire effort to restrict CO<sub>2</sub> under the CAA, and ultimately the reasonableness of the so-called "triggering" rule at issue on this petition. This is particularly true given that each of EPA's three lines of evidence for its Endangerment finding is demonstrably invalid.

If EPA succeeds in limiting the availability of hydrocarbon based energy and raising its price, it is not the rich who will be priced out of purchasing the energy they need. It is the poor. Cheap carbon-based energy from stationary sources means that relatively low income people in this country can afford, for example, to heat, cool and light their homes, cook meals, use the internet, talk on cell phones, buy products like automobiles made of inexpensive steel and other metals. If the lowest cost energy available

is unwisely restricted, all Americans will suffer greatly, but the poorest the first and the most.

Indeed to the extent that this Administration can significantly influence other countries' energy/ climate policy, it is primarily the poor who would stand to be harmed by decreased availability of affordable food resulting from restriction of the amount of CO<sub>2</sub> that would otherwise be in the atmosphere. In seeking to regulate CO<sub>2</sub> from stationary sources under the CAA, and in opposing the petitions, EPA would enlist this Court in its campaign that results in such impoverishment. It would be very sad if this Court by its decision went along with this campaign.



## CONCLUSION

The judgment of the Court of Appeals should be reversed. In addition EPA's Endangerment Finding should be vacated.

Respectfully submitted,

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