

***Life:Powered* (Texas Public Policy Foundation) and CO₂ Coalition**
Comments to the U.S. Environmental Protection Agency
“Oil and Natural Gas Sector NSPS” Proposal
November 22, 2019

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SUMMARY OF COMMENTS

The *Life:Powered* Initiative is a project of the Texas Public Policy Foundation, which is a 501(c)3 non-profit organization dedicated to defending the principles of liberty, personal responsibility, and free enterprise in the public policy sphere. The *Life:Powered* initiative seeks to reorient America’s energy and environmental policy toward the goal of maximizing human flourishing both at home and abroad and prevent policies that restrict the freedoms that are essential to that flourishing. The Foundation believes that EPA’s regulation of greenhouse gasses (GHGs) under the Section 111 of the Federal Clean Air Act (CAA) should be authorized only upon a clear determination that emissions of specified pollutants from a specific source category contribute significantly to the endangerment of the public health or welfare. Such regulations represent a massive expansion of the regulatory power of the CAA that was not intended by Congress and threaten to raise prices on energy and other goods that Americans depend on in their everyday lives.

These comments are specifically inspired by the EPA’s request in Section VI of the proposal ([EPA](#)) for comments regarding “whether CAA [Clean Air Act] section 111 requires the EPA to make a pollutant-specific SCF [significant contribution finding] for GHG emissions (again, primarily methane) from the source category as a prerequisite to regulating those emissions.” The 2016 NSPS OOOOa rule ([C.F.R.](#)), hereafter referred to as the 2016 rule, took the position that methane did not require a new SCF in order to be regulated under the CAA because the 2009 SCF for CO₂ emissions from vehicle tailpipes, hereafter referred to as the 2009 finding, could be applied to all GHGs and source categories. However, this position ignores the fact that each GHG has different effects on global temperatures and that the emissions of these well-mixed gasses must be viewed in reference to global GHG emissions. Therefore, we believe that the statutory text demands that the EPA make a significant contribution finding (SCF) for each GHG and each source category before promulgating regulations to restrict such emissions under Section 111 of the CAA.

Section VI of the proposal ([EPA](#)) also solicits comments on “what criteria are appropriate for the EPA to consider in making a SCF, both as a general matter and with particular reference to GHG emissions generally and to methane emissions from this source category most particularly.” We believe that the only reasonable construction of the statutory text is that EPA must individually assess source categories and the GHGs they emit for their effect on global temperatures which necessarily involves an analysis of the relative contribution of global GHG emissions outside of the control of EPA. Bottom line: if reducing emissions of a particular GHG from a particular source category does not have a significant effect on global surface temperatures, it cannot be claimed that those emissions “contribute[] significantly to[] air pollution which may reasonably be anticipated to endanger public health or welfare”

After setting out the legal context in Part 1 of our comment, which makes clear that EPA must make a source category- and pollutant-specific “significant contribution to endangerment” finding, we document that such a finding cannot be made in this context for the following two distinct reasons that both, independently, document that U.S. methane emissions do not “significantly contribute” to changes in global temperatures and should not be regulated under Section 111 of the CAA.

In Part 2 of these comments, we evaluate the significance of U.S. methane emissions using the Model for the Assessment of Greenhouse Gas Induced Climate Change ([MAGICC](#)) to predict the impact of both the 2016 rule and of eliminating all U.S. methane emissions on future global GHG concentrations and temperatures. This model, which is the basis of most policy discussions sponsored by the Independent Panel on Climate Change (IPCC), including the *Paris Agreement*, is widely used in the scientific community to study different GHG emissions scenarios. As documented below, the MAGICC model shows that the global warming effect of U.S. methane emissions is immeasurably small compared to worldwide GHG emissions.

In Part 3 of these comments, we present a short paper from Dr. Will Happer and Dr. William van Wijngaarden of the CO₂ Coalition, which explains the radiative forcing effects of methane and why the climate impacts of global methane emissions will likely be immeasurably small. Methane is considered a powerful greenhouse gas because the radiative forcing of methane in the tropopause is about 30 times greater than CO₂, which is due to the higher concentration of CO₂ and the saturation of its absorption band. However, methane is actually a less powerful greenhouse gas than CO₂ in the dilute limit. Furthermore, the fact that CO₂ is being emitted at rates 300 times that of methane—and will continue to be so for the foreseeable future—means that the effect of future methane emissions on radiative forcing, and hence global temperature changes, will likely be on the order of 10 percent that of CO₂.

It is important to point out at the outset that EPA need not open the question of radiative forcing discussed in Part 3 of these comments if it recognizes the incontrovertible nature of Parts 1 and 2 of these comments. This is not to suggest that EPA should not recognize the compelling scientific evidence discussed in Part 3 and pursue a more detailed scientific review of that evidence. Rather, we simply make the point that Part 2 documents how the debate about whether EPA can regulate methane under Section 111 of the CAA is not a “climate debate,” as that term has been used (and abused) by the mainstream media. Rather, it is a simple application of math and common-sense principles of materiality using the MAGICC model relied upon by IPCC, which assumes anthropogenic forcing. In other words, EPA can make the finding we recommend in Part 2 without even debating the link between aggregate methane emissions and climate change which is discussed in Part 3

PART 1:

LEGAL CONTEXT: Per the statutory guidelines in the Clean Air Act section 111(b)(1)(A), EPA must make a pollutant-specific significant contribution finding for each greenhouse gas.

Regarding the legal context of this issue, we concur with the governor, lieutenant governor, and attorney general of the state of Texas, who made their legal views clear in their letter to EPA dated April 26, 2018, in the context of carbon dioxide emissions from power plants:

Section 111 governs EPA's regulation of pollutants from stationary sources. Under that section, EPA cannot regulate existing sources through the CPP unless it first regulates new sources through a valid NSPS. We begin with the text of Section 111:

*(b)(1)(A) The Administrator shall . . . publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment it causes, or **contributes significantly** to, air pollution which may reasonably be anticipated to endanger public health or welfare.*

(B) Within one year after the inclusion of a category of stationary sources in a list under subparagraph (A), the Administrator shall publish proposed regulations, establishing Federal standards of performance for new sources within such category.

...

(d)(1) The Administrator shall prescribe regulations . . . under which each State shall submit to the Administrator a plan which [] establishes standards of performance for any existing source for any air pollutant . . . to which a standard of performance under this section would apply if such existing source were a new source

42 U.S.C. § 7411 (emphasis added). The resulting four-step framework is as follows:

1. *Endangerment Finding: The Administrator determines which "categories of stationary sources" "cause[], or **contribute[] significantly** to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7411(b)(1)(A).*
2. *Listing: The Administrator then publishes "a list of categories of stationary sources" that he found to be dangerous. 42 U.S.C. § 7411(b)(1)(A).*
3. *New Source Performance Standard: Next, the Administrator promulgates "regulations[] establishing Federal standards of performance for new sources within" "a category of stationary sources in a list." Id. § 7411(b)(1)(B).*
4. *Existing Source Performance Standard: Last, the Administrator "prescribe[s] regulations" under which States "establish[] standards of performance for" existing sources that would be subject to a federal standard of performance if they were new sources. Id. § 7411(d)(1).*

Each step builds upon the previous one. EPA cannot list a category of sources until it has issued an endangerment finding, and it cannot create a new source performance standard until "after the inclusion of a category of stationary sources in a list." Id. § 7411(b)(1). Similarly, EPA cannot create an existing source performance standard until after there is a new source performance standard that "would apply" if the relevant "existing source were a new source." Id. § 7411(d)(1).

In sum, under Section 111(b)(1)(A) of the CAA, EPA must make both a source-specific and a pollutant-specific endangerment finding before promulgating standards of performance under Section 111(b). To satisfy this endangerment finding requirement, EPA must find that a “category of sources . . . causes, or contributes *significantly* to, *air pollution* which may reasonably be anticipated to endanger public health or welfare” (42 U.S.C. § 7411(b)(1)(A), emphasis added). The plain statutory language requires EPA to make an endangerment determination that is (1) pollutant-specific, (2) source-specific, and (3) includes a significant contribution finding with regard to the “air pollution” at issue. There is no ambiguity in the statutory language.

Accordingly, the language must be applied as written. See *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984). *Chevron* “is premised on the theory that a statute’s ambiguity constitutes an implicit delegation from Congress to the agency to fill in the statutory gaps.” *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000). Section 111(b) requires both a source-specific and a pollutant-specific endangerment finding before EPA can regulate methane (or any other air pollutant) under that section. Accordingly, EPA has not been delegated the authority to regulate methane under Section 111(b) *absent* a pollutant-specific endangerment finding for methane. See generally, Abbe R. Gluck, *Imperfect Statutes, Imperfect Courts: Understanding Congress’s Plan in the Era of Unorthodox Lawmaking*. 129 Harv. L. Rev. 62, 93-96.

Applying traditional rules of statutory construction, no ambiguity can be discerned in the language of 42 U.S.C. § 7411(b)(1)(A). The language clearly requires that EPA consider both the “category of sources” and the “air pollution” emitted from those sources in making the significant contribution finding. Congress could have easily limited the significant contribution finding to the “category of sources” alone. But it did not. See *Motor and Equip. Manufacturers Ass’n of the United States, Inc. v. New York State Dep’t of Env’tl. Conservation*, 627 F. 2d 1095, 1113 (D.C. Cir. 1979) (“Congress was certainly capable of adding the phrase ‘accompanying enforcement procedures’ wherever the word ‘standards’ appeared if it desired the statutory findings to apply to both. We see no reason to assume that its failure to do so is attributable to sloppy draftsmanship.”). So too, there is no reason to assume that Congress was sloppy in adding a pollutant-specific requirement to the significant contribution standard. Moreover, “every clause and word of a statute” must be given effect. *U.S. v. Menasche*, 348 U.S. 528, 538-39 (1995). An interpretation that renders a term meaningless surplusage should be avoided. See *Duncan v. Walker*, 533 U.S. 167, 174 (2001). Accordingly, the specific inclusion of the term “air pollution” as part of the threshold requirement for making a significant contribution finding under section 111(b) cannot be ignored but must be given effect.

Finally, the rule of last antecedent requires a pollutant-specific endangerment finding. See *Barnhart v. Thomas*, 540 U.S. 20, 26 (2003) (limiting clause or phrase is read as modifying the noun or phrase it immediately follows). Here the term “may reasonably be anticipated to endanger human health or welfare” immediately follows the term “air pollution.” Accordingly, under the rule of last antecedent, EPA must include a pollutant-specific analysis as part of its endangerment finding under section 111(b). Because EPA did not make the requisite finding for methane emissions, the proposal is fatally flawed. But even if EPA were to attempt to make such a finding, it would fail, for the reasons set forth below.

PART 2:

MATH & MATERIALITY: U.S. methane emissions are an insignificant contributor to global GHG concentrations, and their effect on future temperatures will be immeasurably small.

In addition to our position that the EPA must make a separate significant contribution finding for methane in order to regulate it under CAA section 111(b), we further argue that U.S. methane emissions do not significantly contribute to global GHG concentrations and the associated climate change effects. U.S. methane emissions comprise only 7 percent of global methane emissions and 1 percent of global GHG emissions on a CO₂ equivalent basis in 2015 ([EDGAR](#)). Furthermore, U.S. emissions have declined 15 percent since 1990 ([EPA 2019](#)). Eliminating these emissions, without corresponding reductions from other countries that are continuing to increase their emissions, will not have significant effect on future global temperatures.

To illuminate the immeasurably small effect of U.S. methane emissions, especially the small emissions reductions estimated to occur under the 2016 rule, we used the MAGICC model to estimate the change in global temperatures up to 2100 under two different scenarios. First is a scenario in which the emissions reductions from the 2016 rule are taken past the EPA’s 2025 projections all the way to 2100 and second is a scenario in which all U.S. methane emissions are reduced 50 percent by 2030, 75 percent by 2040, and eliminated by 2050, remaining at zero until 2100. Because there are no official projections of U.S. methane emissions, we assume U.S. methane emissions will remain 38 percent of projected OECD emissions, as they were in 2015 ([EDGAR](#); [RCP Database](#)), in the baseline scenario. In order to evaluate the effect of U.S. emissions alone, emissions from other countries are left unchanged from the baseline scenario.

As a baseline emissions scenario, we chose the Representative Concentration Pathway 6.0, known as RCP6.0 ([RCP](#)), which is one of the four primary scenarios evaluated by the IPCC. This scenario shows CO₂ emissions steadily increasing until 2080, reaching nearly twice their present levels, before declining, and methane emissions increasing until 2060. Unlike the drastic, nearly impossible emissions increases in RCP8.5, which is considered the “business as usual” scenario in the Fourth National Climate Assessment, RCP6.0 is consistent with current resource availability data ([Ritchie and Dowlatabadi](#)) and future technological trends.

The above assumptions yield the following values for future global methane emissions:

Table 1: Projected global methane emissions from 2020 to 2100 in millions of metric tons

	2020	2030	2040	2050	2060	2070	2080	2090	2100
RCP6.0	311.6	326.3	344.1	355.1	363.9	360.0	339.9	270.0	246.0
2016 Methane Rule	311.3	325.5	343.3	354.2	363.2	359.2	339.3	269.5	245.6
No U.S. Emissions	311.6	314.7	325.8	330.3	339.9	337.9	320.1	255.3	233.2

These methane emissions profiles are then inputted into the MAGICC model while holding all other GHG concentrations equal to their projected values under RCP6.0. The model outputs, in 10-year increments, both the projected CH₄ concentrations and projected change in global surface temperatures relative to the late 20th century average.

Table 2: Projected changes in global methane concentrations and temperatures

	CH ₄ Concentration	Difference	Temperature	Difference
RCP6.0	1646.5 ppb		3.102°C	
2016 Methane Rule	1644.6 ppb	0.12%	3.102°C	0.000°C
No U.S. Emissions	1590.7 ppb	3.98%	3.076°C	0.026°C

As Table 2 indicates, the 2016 rule would reduce global methane concentrations in 2100 by only 0.12 percent. The projected rise in global temperatures would be reduced less than one-thousandth of a degree, smaller than the MAGICC model's significance range and much smaller than the 0.12 degree error margin in the estimations of global surface temperatures relied on by the IPCC ([HadCRUT4](#)). Yet the 2106 rule RIA ([EPA 2016](#)) boldly attempted to ascribe hundreds of millions of dollars in annual benefits from the projected emissions reductions resulting from the rule.

Eliminating U.S. methane emissions entirely by 2050 will lead to a less than 4 percent decline in global methane concentrations and a corresponding three hundredths of a degree mitigation, or one-tenth of 1 percent, in the projected rise in global temperatures by 2100. Again, this effect is an order of magnitude less than the measurement error in global temperatures, which the primary metric used to measure the "significance" of the climate impacts of GHGs. Such an immeasurable effect cannot meet the requirements of CAA section 111(b) on its own, and the EPA, if it undertakes a separate significant contribution finding for methane, should rule that methane cannot be regulated under the CAA.

PART 3:

RADIATIVE FORCING: The radiative forcing effect of methane is insignificant relative to the total forcing from all GHGs and will continue to be so for the foreseeable future. The climate impact of projected global methane emissions is almost certain to be negligible. Anthropogenic methane emissions should not be regulated under the context that they are significantly contributing to global warming and endangering the public welfare.

Atmospheric methane, like all GHGs, contributes to the radiative forcing of Earth's atmosphere, which is the amount of upward thermal radiation from the Earth that is absorbed by GHGs. At current atmospheric concentrations, the radiative forcing of a molecule of methane in the tropopause is about 30 times greater than a molecule of CO₂ because the absorption band of CO₂, which is 200 times more abundant than methane, is more saturated. Therefore, methane is considered to be a powerful greenhouse gas. But in the dilute limit, without screening effects, methane is actually a less powerful greenhouse gas than CO₂. These screening effects are an important consideration when predicting the impact of future GHG emissions on radiative forcing and global temperatures.

Because CO₂ is being emitted at rates 300 times that of methane—and will continue to be so for the foreseeable future—the effect of future methane emissions on radiative forcing will only be on the order of 10 percent that of CO₂. If methane emissions continue at current rates, it will take about 270 years to double the current methane concentration. Even such a doubling would increase total radiative forcing by less than 1 percent and only raise global surface temperature by around one tenth of a degree Celsius. Therefore, unless future methane emissions increase many times above their present values, their effect on global temperatures will be immeasurably small.

The attached paper from Dr. Will Happer of Princeton University and Dr. William van Wijngaarden of York University explains in greater detail the greenhouse effects of atmospheric methane and provides strong evidence that methane, CO₂, nitrous oxide, and other GHGs are not contributing to a climate crisis. Dr. Happer and Dr. van Wijngaarden are members of the CO₂ Coalition, which seeks to engage policymakers and the public in an informed discussion about climate change and humans' role in the climate system. Their paper is being submitted here on behalf of the Coalition.