

Reconsideration of the 2008 Ozone NAAQS

July 28, 2011

Goals

To present:

- 1) NERA review of the benefits estimation contained in the RIA;
- 2) alternative cost & attainment data
 - NERA
 - Manufacturers Alliance
- 3) Implications of the proposed standards for non-attainment

RIA indicates that Benefits May Not Exceed The Costs

EPA's Estimated Annual Benefits and Costs for Ozone Primary NAAQS Alternatives*

(in billions of 2006\$ per year in 2020)

	Alternative Standards				
	0.075 ppm	0.070 ppm Proposed - Hi	0.065 ppm	0.060 ppm Proposed - Lo	0.055 ppm
Benefits	\$6.4 to \$15	\$11 to \$31	\$19 to \$53	\$30 to \$87	\$45 to \$140
Costs	\$7.6 to \$8.8	\$19 to \$25	\$32 to \$44	\$52 to \$90	\$78 to \$130
Net Benefits	-\$2.4 to \$7.4	-\$14 to \$12	-\$25 to \$20	-\$60 to \$35	-\$85 to \$62

* At 7%/yr discount rate. Benefits range reflects 6 ozone mortality studies and 2 for PM_{2.5}. Cost range reflects 2 approaches.

Wide ranges of uncertainty in EPA estimates of benefits, costs and net benefits

- ***We believe that the Benefits are overestimated***
- ***We believe that the Costs are underestimated***

EPA Costs Underestimated

(In billions of 2006\$ per year in 2020)

	Alternative Standards				
	0.075 ppm	0.070 ppm Proposed - Hi	0.065 ppm	0.060 ppm Proposed - Lo	0.055 ppm
1. Modeled costs for known controls	\$2.5	\$3.3	\$4.5	\$4.5	\$5.1
2. Extrapolated costs for unknown controls	\$5.1 to \$6.3	\$16 to \$22	\$27 to \$39	\$47 to \$85	\$73 to \$122
Total National Costs (excluding So CA)*	\$7.6 to \$8.8	\$19 to \$25	\$32 to \$44	\$52 to \$90	\$78 to \$130

* Southern California will not attain any of these alternative NAAQS by 2020 and is omitted from EPA's analysis

Use of “all known controls” will reduce precursor emissions by 820,000 TPY

- 1.4 million additional TPY needed for 0.070; 4.2 million TPY needed for 0.060

EPA assumes controls will be developed, cost-effective and deployed by 2020

- “Fixed cost” method assumes unlimited new controls at \$15,000 per ton
- “Hybrid” method assumes marginal costs increase slowly above \$15,000/ton

NERA/Sierra identified additional controls ranging from \$4,000 to \$300,000+ per ton

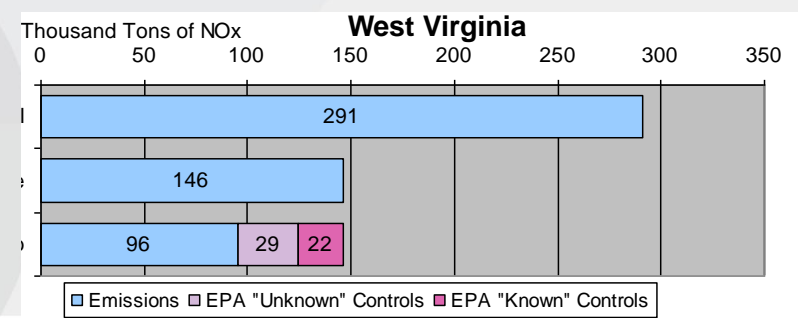
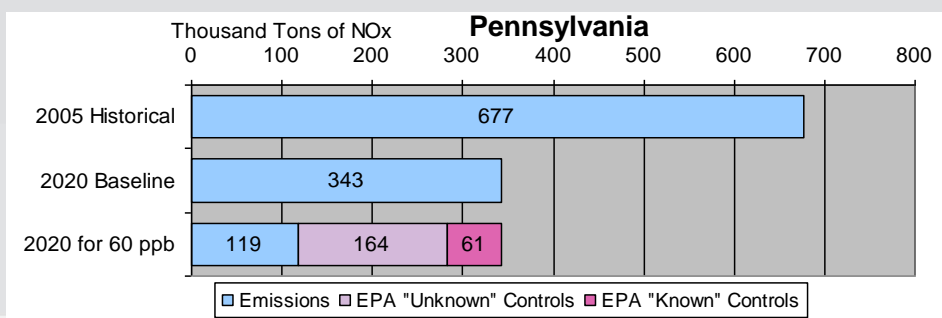
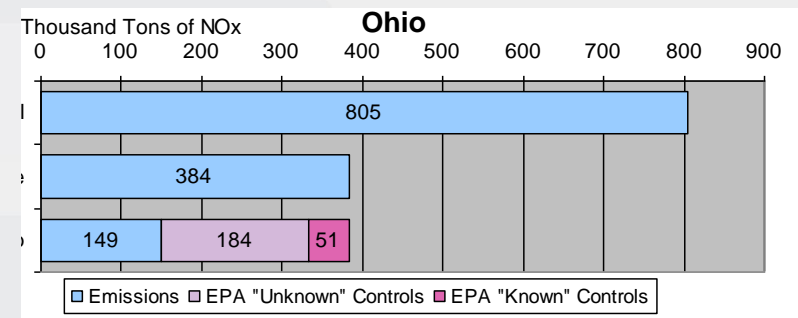
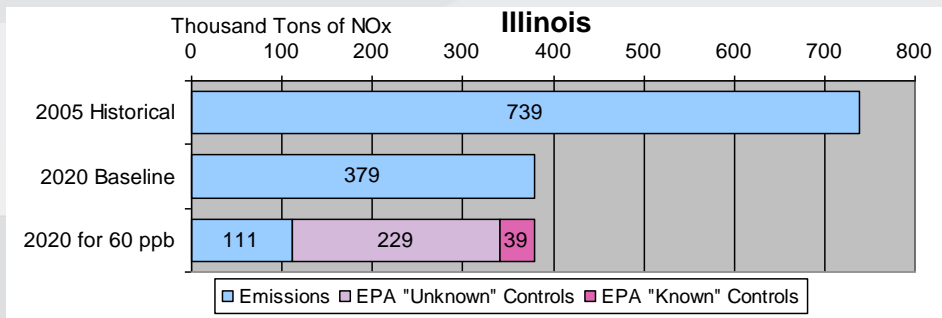
- Total costs 5 to 10 times EPA estimates via “fixed cost” and “hybrid” methods

Cost of NOx offsets has often been \$15,000 - \$150,000/ton in Houston/LA

- Suggests EPA has significantly underestimated costs for additional controls in other areas

Lower NAAQS are Broadly Unattainable

- EPA made optimistic assumptions in estimating 2020 baseline emissions
- EPA then applied “all known controls” across wide geographic areas
- EPA’s results are still broad nonattainment in 2020 for any tighter NAAQS. Of 661 counties with monitors: 99 would not attain 0.070 ppm and 451 would not attain 0.060.
- Many major metropolitan areas will require an “Extreme” classification to avoid economic and business sanctions for failure to submit an approvable SIP to EPA
- Attainment will require reductions far beyond “all known controls”



Significant Negative Economic Impacts

NERA/Sierra performed economic analyses for 11 States for 0.060 ozone NAAQS

- Used EPA’s 2020 baseline, reductions needed to attain, costs for known controls

Three key differences from RIA methodology:

- 1) Additional “known controls” were identified and applied in simulating attainment
- 2) More realistic approach used for estimating the costs of as-yet-unknown controls
- 3) Attainment costs used as input to REMI model to estimate economic effects

Aggregate Conclusions Across 11 States -- Impact of NAAQS at 0.060 ppm in 2020

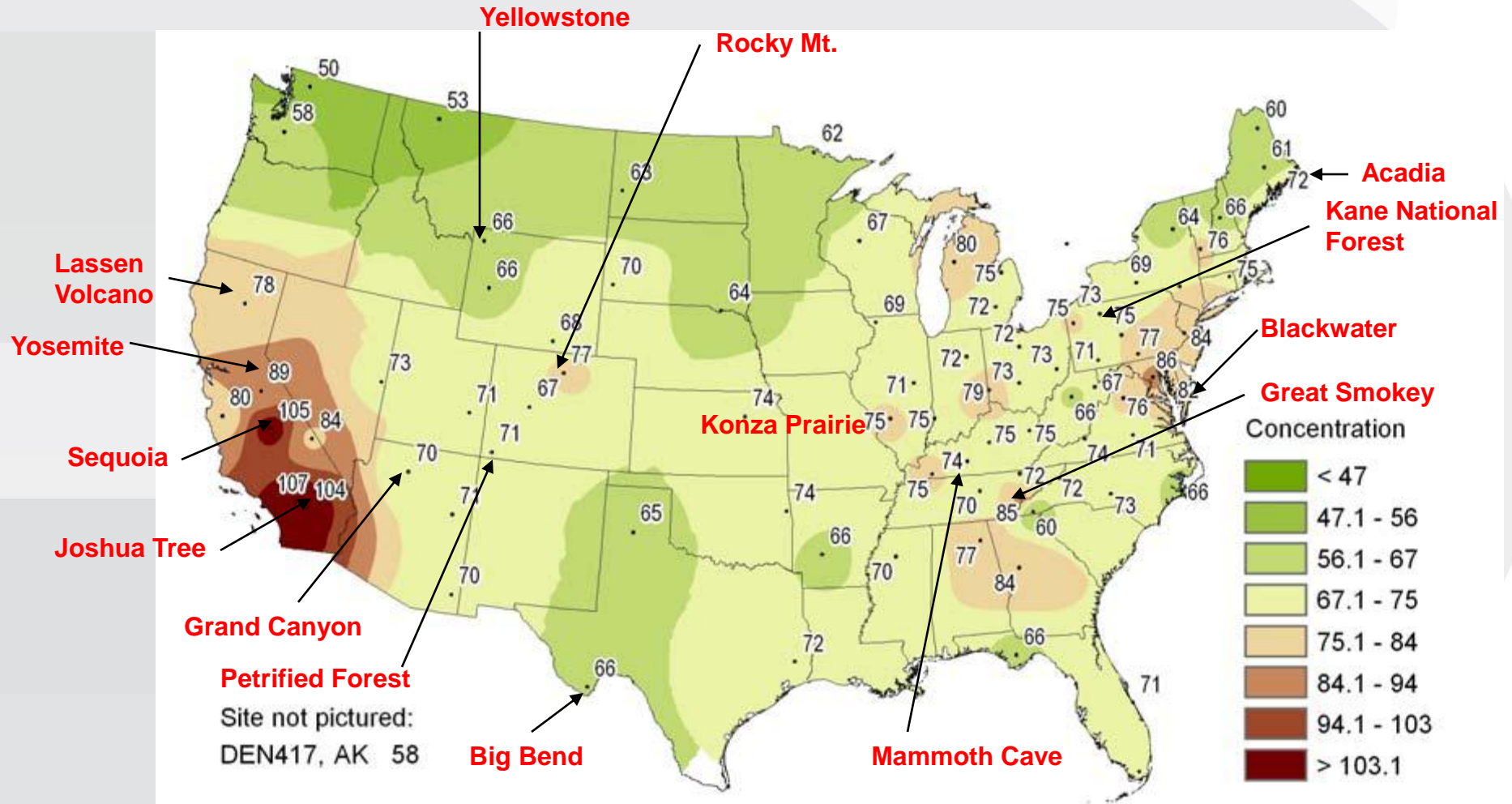
Measure	Impact of 0.060 NAAQS relative to 0.084	
	Absolute	Percentage
Employment/jobs	-1,452,000	-4.1%
Gross regional product (in billion \$/yr)	-132.4	-3.6%
Disposable income (in billion \$/yr)	-74.9	-2.2%
State tax receipts (in billion \$/yr)	-10.7	-1.9%

Significant Negative Economic Impacts

Manufacturers Alliance extrapolated the 11 state results nationally

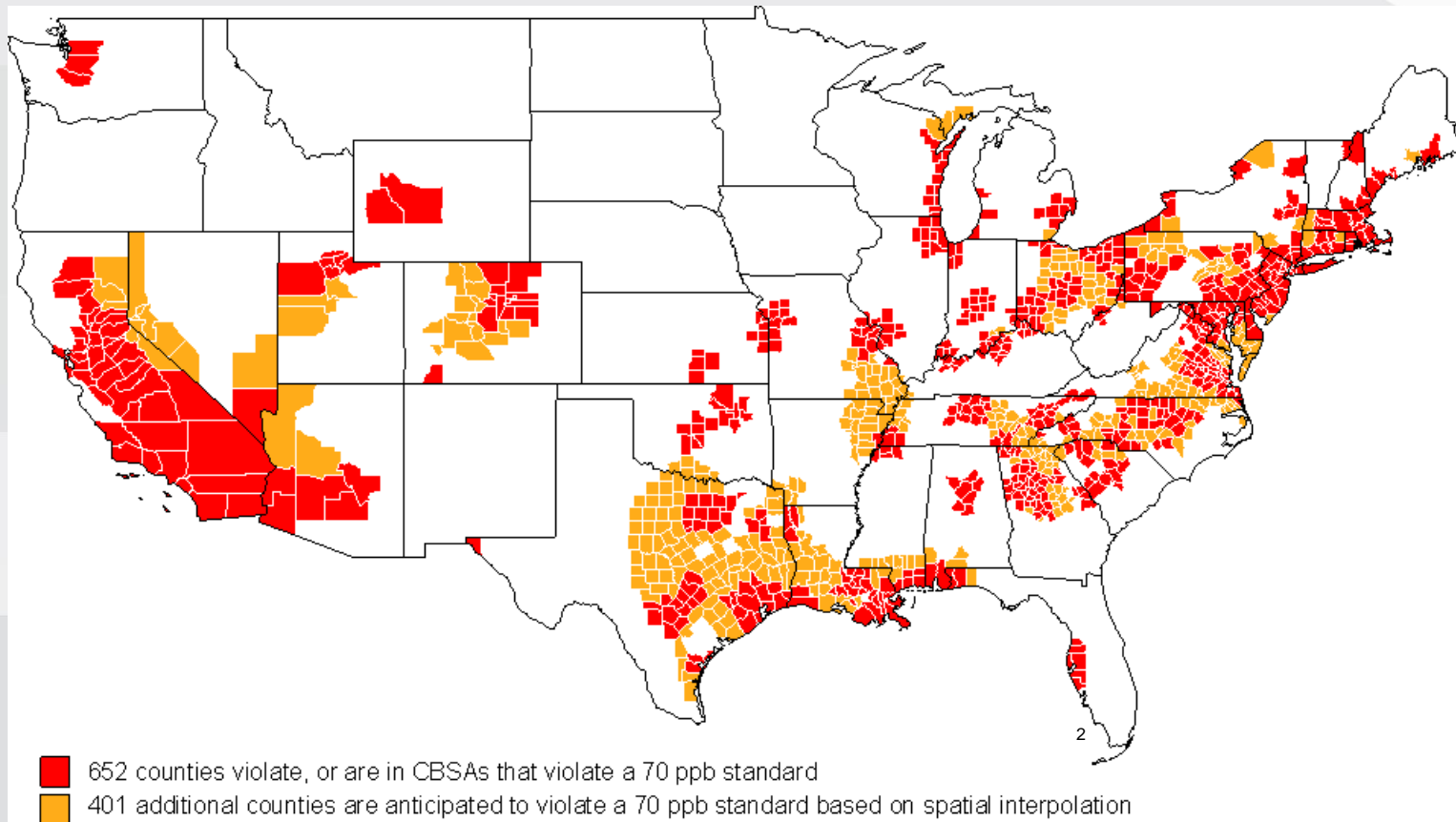
- 7.3 million jobs lost by 2020
- \$1 trillion impact annually from 2020 - 2030

Areas Affected by a Lower NAAQS EPA CASTNET DATA¹



¹Values are three-Year Average of Fourth Highest Daily Maximum 8-Hour Average Ozone Concentrations (ppb) in various National Parks for 2006–2008

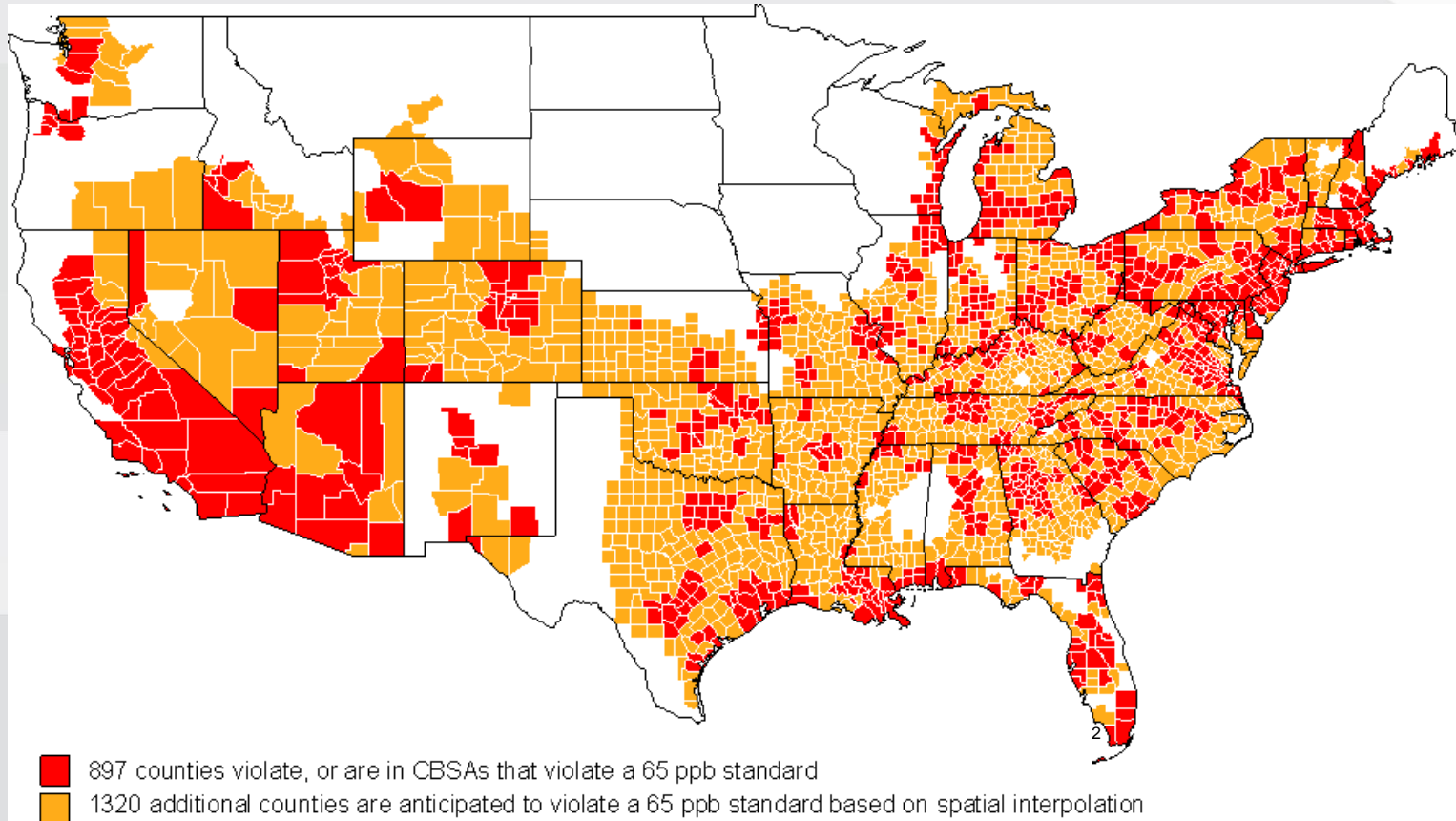
CBSA¹ and Rural Counties that Violate an Ozone Standard of 70 ppb based on 2008-2010 Data²



¹ Core Based Statistical Area (CBSA) refers collectively to both metropolitan statistical areas (MSA) and micropolitan areas

² 1053 counties violate a 70 ppb standard (three times the number of counties that violate the 2008 (75 ppb) standard)

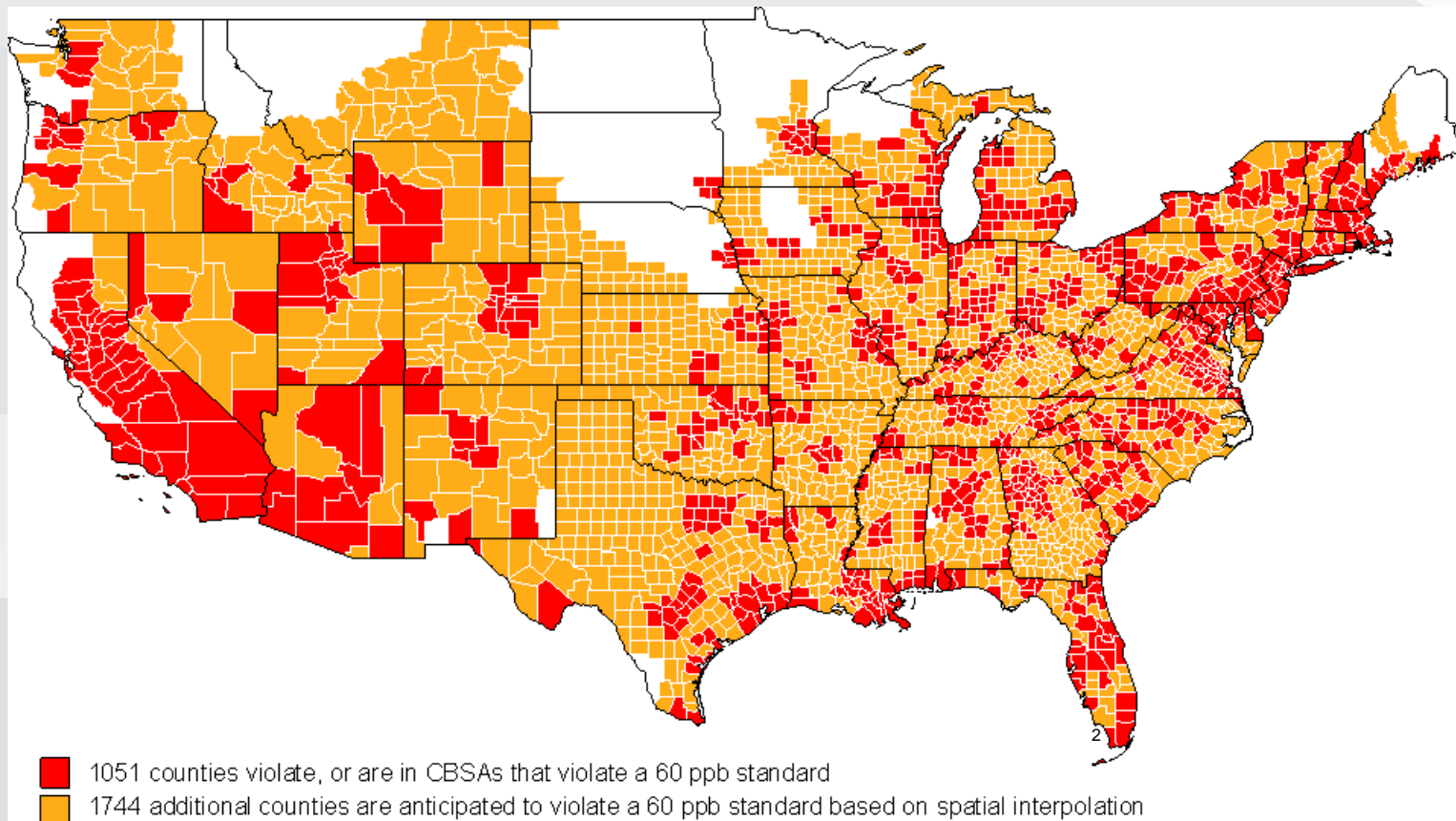
CBSA¹ and Rural Counties that Violate an Ozone Standard of 65 ppb based on 2008-2010 Data²



¹ Core Based Statistical Area (CBSA) refers collectively to both metropolitan statistical areas (MSA) and micropolitan areas

² 2217 counties violate a 65 ppb standard (six times the number of counties that violate the 2008 (75 ppb) standard)

CBSA¹ and Rural Counties that Violate an Ozone Standard of 60 ppb based on 2008-2010 Data²



¹ Core Based Statistical Area (CBSA) refers collectively to both metropolitan statistical areas (MSA) and micropolitan areas
² 2795 counties violate a 65 ppb standard (eight times the number of counties that violate the 2008 (75 ppb) standard)