WHAT LOUISIANA CAN EXPECT FROM EPA'S RECENTLY PROPOSED REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE

Presentation to

Air & Waste Management Association
Louisiana Section

by

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Baton Rouge
CLEAN AIR COALITION

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PRESENTATION OUTLINE

- Introduction
- EPA's Proposed Revision of the Ozone Standards
  - History
  - Major Elements
  - Implementation Time Line
- Current Ozone Status in Louisiana
- Potential Impacts of Proposed Ozone Standard Revision
  - Designations and Classifications
  - Metro Areas Designated Nonattainmentt
  - Economy and Jobs
  - Energy
  - Transportation
  - LDEQ
- Proposed Mitigation Strategies
- Close/Questions

History of National Ambient Air Quality Standards for Ground-level Ozone

YEAR	PRIMARY STANDARDS		SECONDARY STANDARDS	
	Level	Averaging Time	Level	Averaging Time
1971	0.08 ppm*	1-hour[1]	0.08 ppm*	1-hour
1979	0.12 ppm	1-hour[1]	same as primary	
1993	EPA decides revisions not warranted			
1997	0.08 ppm	8-hour[2]	same as primary	
2008	0.075 ppm	8-hour[2]	same as primary	
2010**	0.060-0.070 ppm	8-hour[2]	W126 index : 7-15 ppm-hours	
2014	0.065-0.070 ppm	8-hour[2]	same as primary	

*Total photochemical oxidants

**Proposed January 6, 2010; Withdrawn 2011

1 (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 parts per million (ppm) is $\leq$ 1.

(b) EPA revoked the 1-hour ozone standard in all areas, although some areas (such as Baton Rouge) have continuing obligations under that standard ("anti-backsliding").

2 To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed the standard.

EPA'S PROPOSED REVISION OF THE NAAQS FOR GROUND LEVEL OZONE

Major Elements

- Proposed December 17, 2014
- EPA proposes a range of 65 to 70 ppb for the new ozone standard, but will take comments on 60 ppb as well
- Recent CASAC recommendations state that 70 ppb does not offer a sufficient margin of safety
- Secondary standard same as primary standard
- Conforming changes to the Air Quality Index (AQI)
- Changes to the O3 monitoring seasons, the Federal Reference Method (FRM) for monitoring O3 in the ambient air, Federal Equivalent Method (FEM) procedures for testing, and the Photochemical Assessment Monitoring Stations (PAMS) network
- Revision of regulations for the prevention of significant deterioration (PSD) program to add a transition provision for certain applications

Proposed Changes to the Air Quality Index

- EPA is proposing updates to the Air Quality Index (AQI) for ozone pollution.
  - The AQI is EPA's color-coded tool used by state and local governments to help inform the public about current and daily air quality and recommends steps that individuals can take to reduce their exposure to air pollution.
  - The AQI converts ozone concentrations to a number on a scale from 0 to 500.
- EPA is proposing to change the breakpoints for each AQI category based on the level of the proposed primary standard and information from the health studies examined in the review.
- EPA is soliciting comments on these proposed revisions to the AQI.

AQI Category	Index values	Current Breakpoints (2008 AQI) (ppb, 8-hour avg)	Proposed Breakpoints (ppb, 8-hour avg)
Good	0 - 50	0 - 59	0 – (49 to 54)
Moderate	51 – 100	60 – 75	(50 – 55) – (65 to 70)
Unhealthy for Sensitive Groups	101 - 150	76 - 95	(66 to 71) - 85
Unhealthy	151 - 200	96 - 115	86 - 105

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Proposed Changes to Monitoring Requirements

- EPA is proposing changes to monitoring requirements to smooth the transition to any revised standards and assure that the public has full information about air quality.
- **Ozone monitoring season**
  - Proposing to extend the ozone monitoring season for 33 states, to match the times of year when data show ozone can approach unhealthy levels, and to alert the public;
  - Proposing to require year-round monitoring at 80 existing multipollutant monitoring sites (NCore) stations.
  - Implementation of revised seasons proposed for January 1, 2017.
- **Photochemical Assessment Monitoring Stations (PAMS)**
  - Revising PAMS applicability to all ozone non-attainment areas with NCore sites – uses existing network infrastructure.
  - Proposing changes to certain required methods.
  - Proposing changes to decrease monitoring burden and increase flexibility.
  - Implementation deadlines of 2017 or 2019 based on nonattainment status of areas.
- **Ozone Federal Reference Method**
  - Proposing to add a new ozone Federal Reference Method (FRM) while retaining the current FRM and Federal Equivalent Methods (FEMs).
  - Impact on state monitoring networks will be minimal as existing approved methods are adequate for continued operation.

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Proposed Changes to Clean Air Permitting Provisions and Other Efforts to Ease Transition

- PSD Grandfathering
  - Proposing that any in-the-pipeline permit application meeting certain conditions would be required to consider its impact on the 2008 NAAQS but not the 2015 NAAQS
  - Seeking comment on appropriate criteria for PSD grandfathering
- Ongoing and Upcoming Efforts
  - Ongoing reductions from federal measures (including reductions in ozone precursors).
  - Planning timely assistance for state, tribal and local air agencies.
  - Exceptional Events Rule revisions and guidance (forthcoming).

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Ozone NAAQS Review Schedule

- **Proposal** signed on November 25, 2014
- **Public comment period** for 90 days after proposal is published in the Federal Register
  - Comments should be labeled with Docket ID number EPA-HQ-OAR-2008-0699
- **3 Public hearings** will be held in January 2015. More details will be announced in a separate Federal Register notice.
- **Final Rule** to be signed by October 1, 2015
- For more information on the rule and how to comment, go to http://www.epa.gov/air/ozonepollution/

Tentative timeline for designations and implementation

- After a standard is final, states and tribes work with EPA to make plans to meet it. This process is laid out in the Clean Air Act and some of the key milestones are shown here.

Designation Schedule		
	Schedule	Tentative Date
State and Tribe Recommendations	Within 1 year after NAAQS promulgation	October 2016
Final Designation	Within 2 years after NAAQS promulgation (Administrator has discretion to extend the deadline by one year to collect sufficient information.)	October 2017 Effective date may vary. (Air quality data years: 2014 –2016)
Implementation Schedule		
Infrastructure SIP	Within 3 years after NAAQS promulgation	October 2018
Attainment Plans Due	Within 36 - 48 months after designations depending on classification	October 2020-2021

Attainment Schedule by Classification	
Classification	Schedule*
Marginal	3 years to attain
Moderate	6 years to attain
Serious	9 years to attain
Severe	15 to 17 years to attain
Extreme	20 years to attain

*Areas must attain as expeditiously as practical, but not later than the schedule in the table. Two one-year extensions are available in certain circumstances based on air quality.

LA NAA 2020

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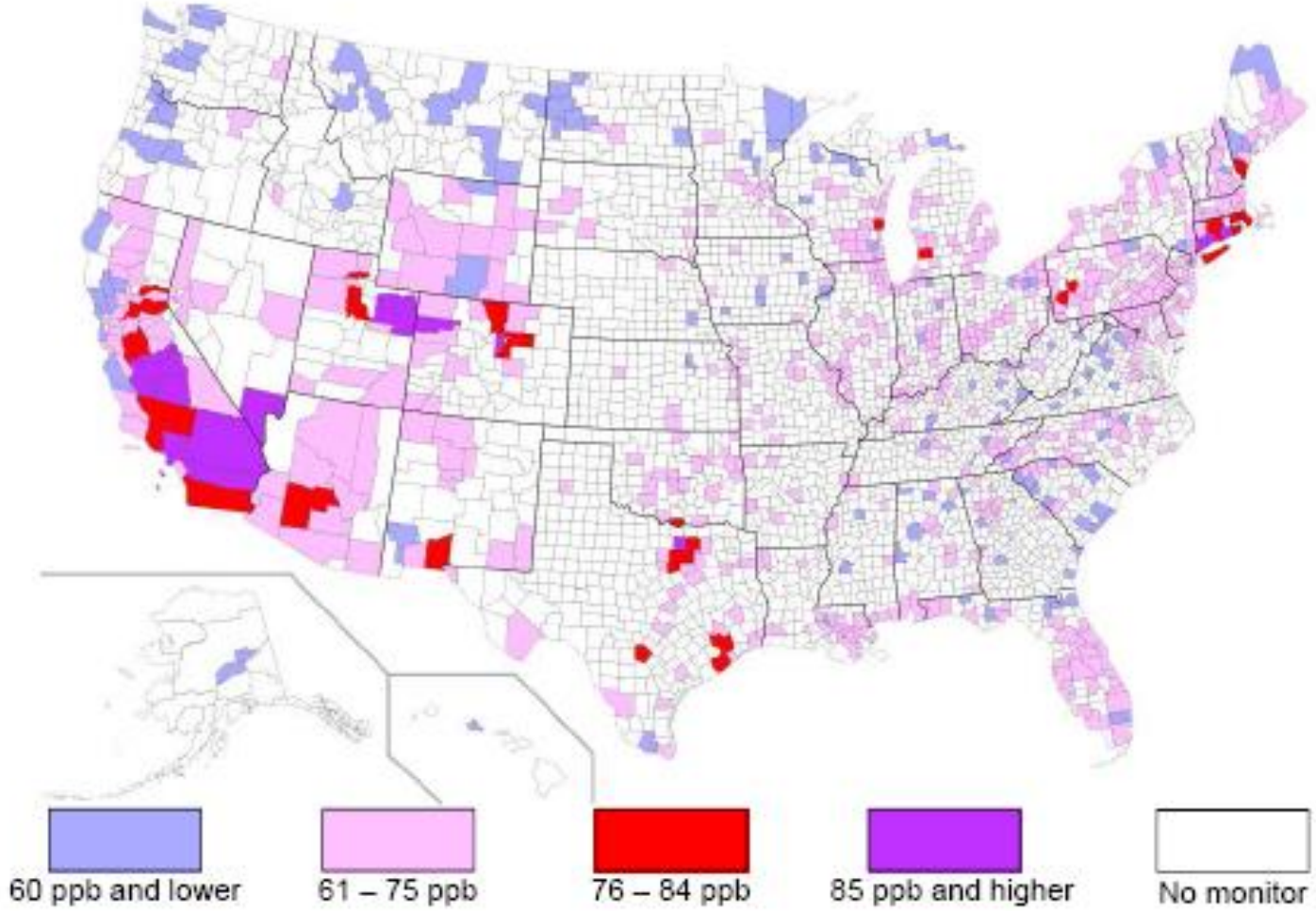
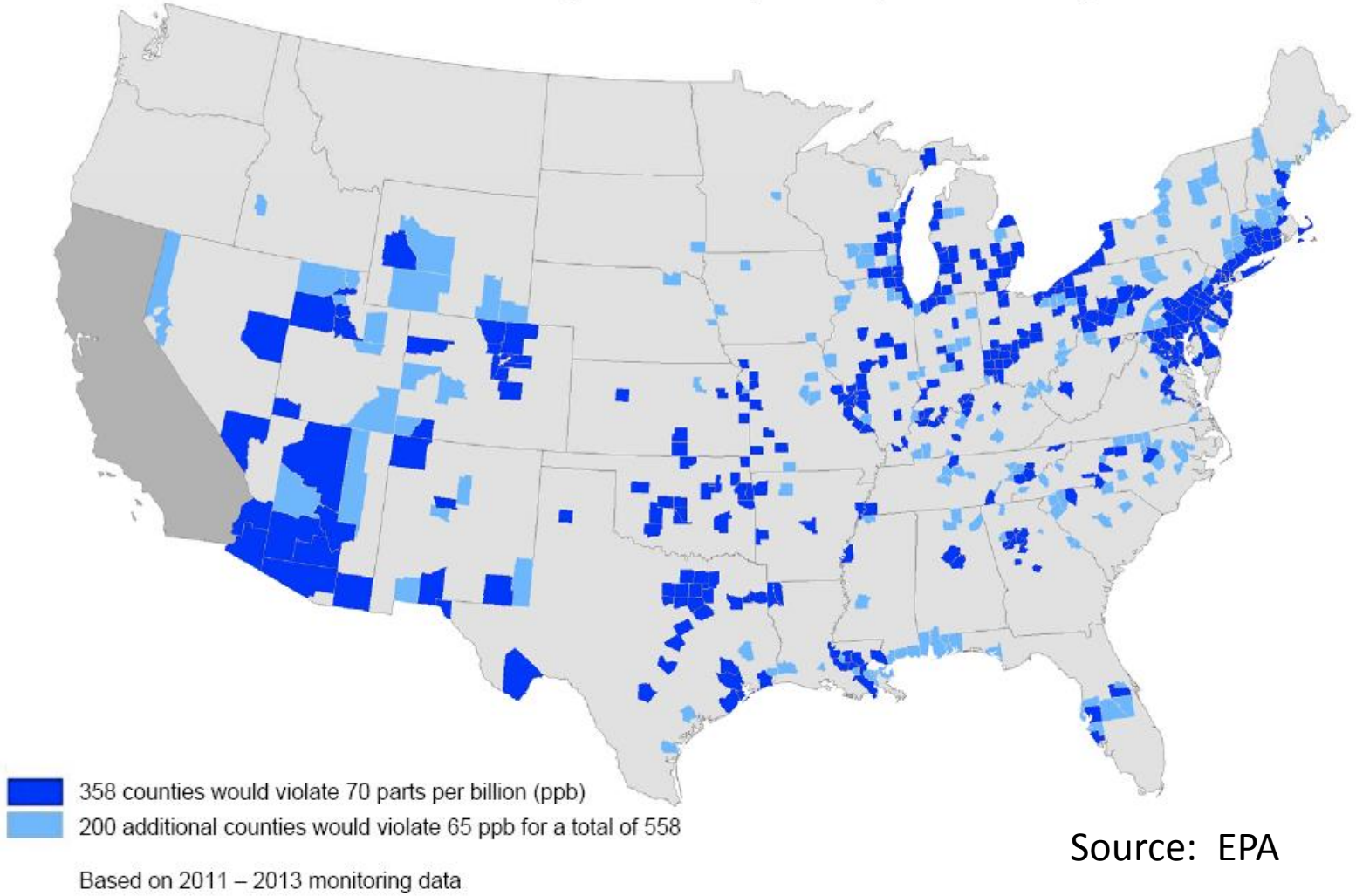
Figure 1: EPA 2013 Ozone Concentration Data



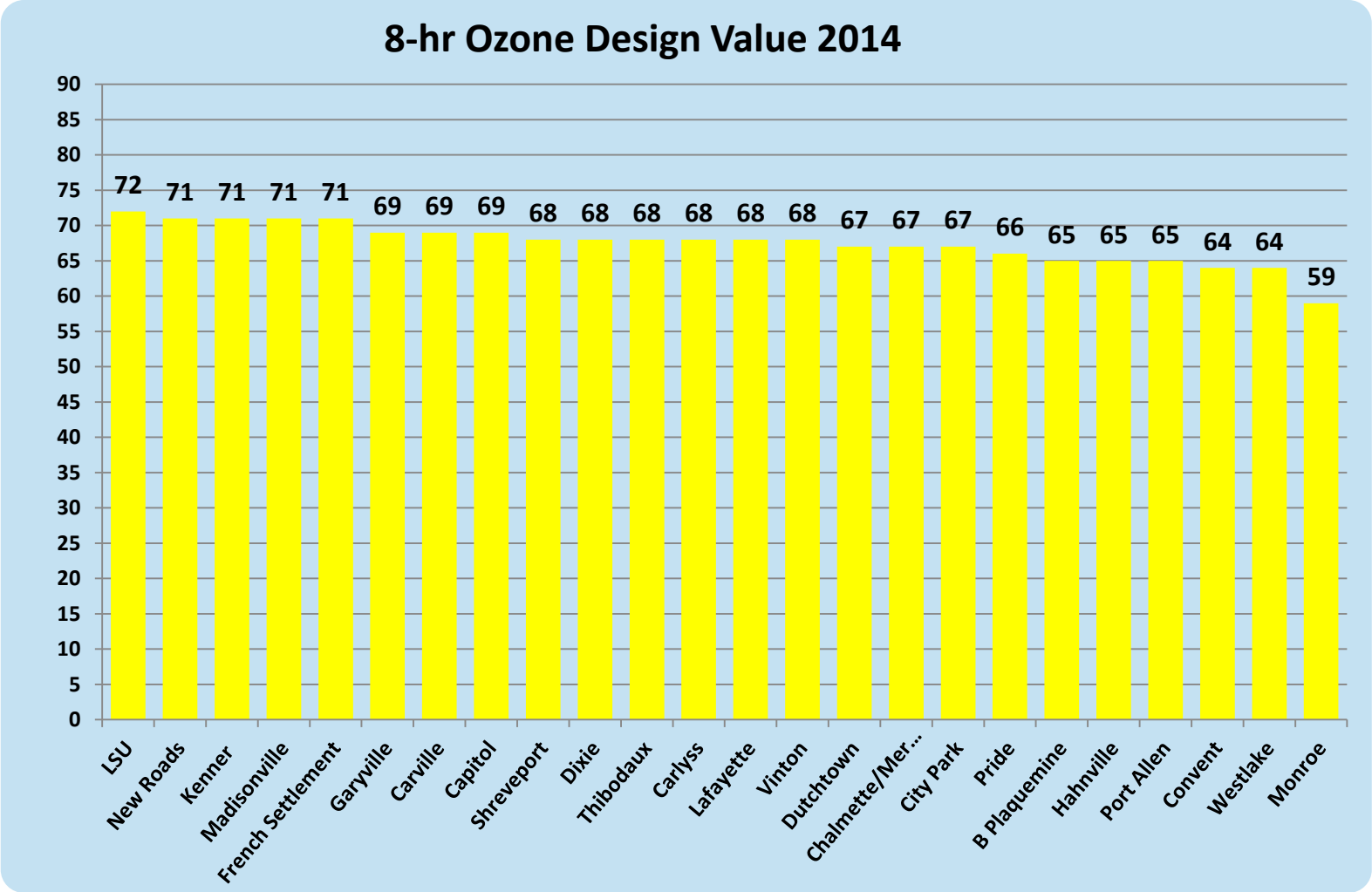
Source: NERA map using ozone concentration data from EPA (2014c)

Counties Where Measured Ozone is Above Proposed Range of Standards (65 – 70 parts per billion)



Source: EPA

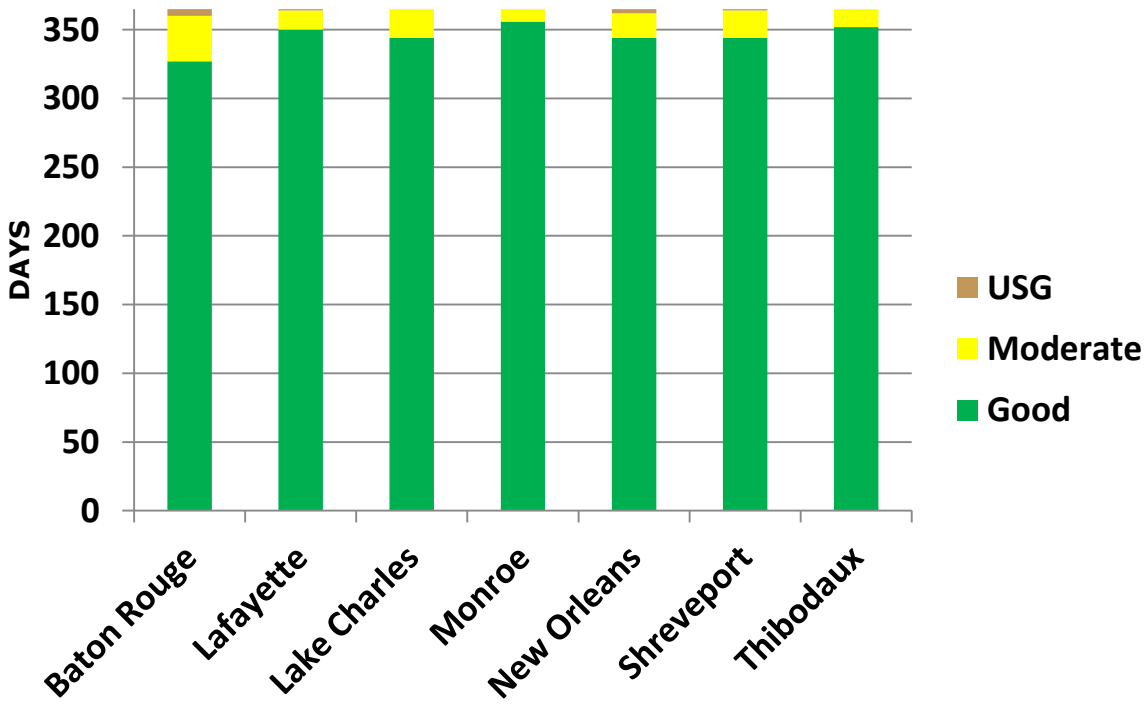
CURRENT OZONE STATUS IN LOUISIANA



Source: LDEQ

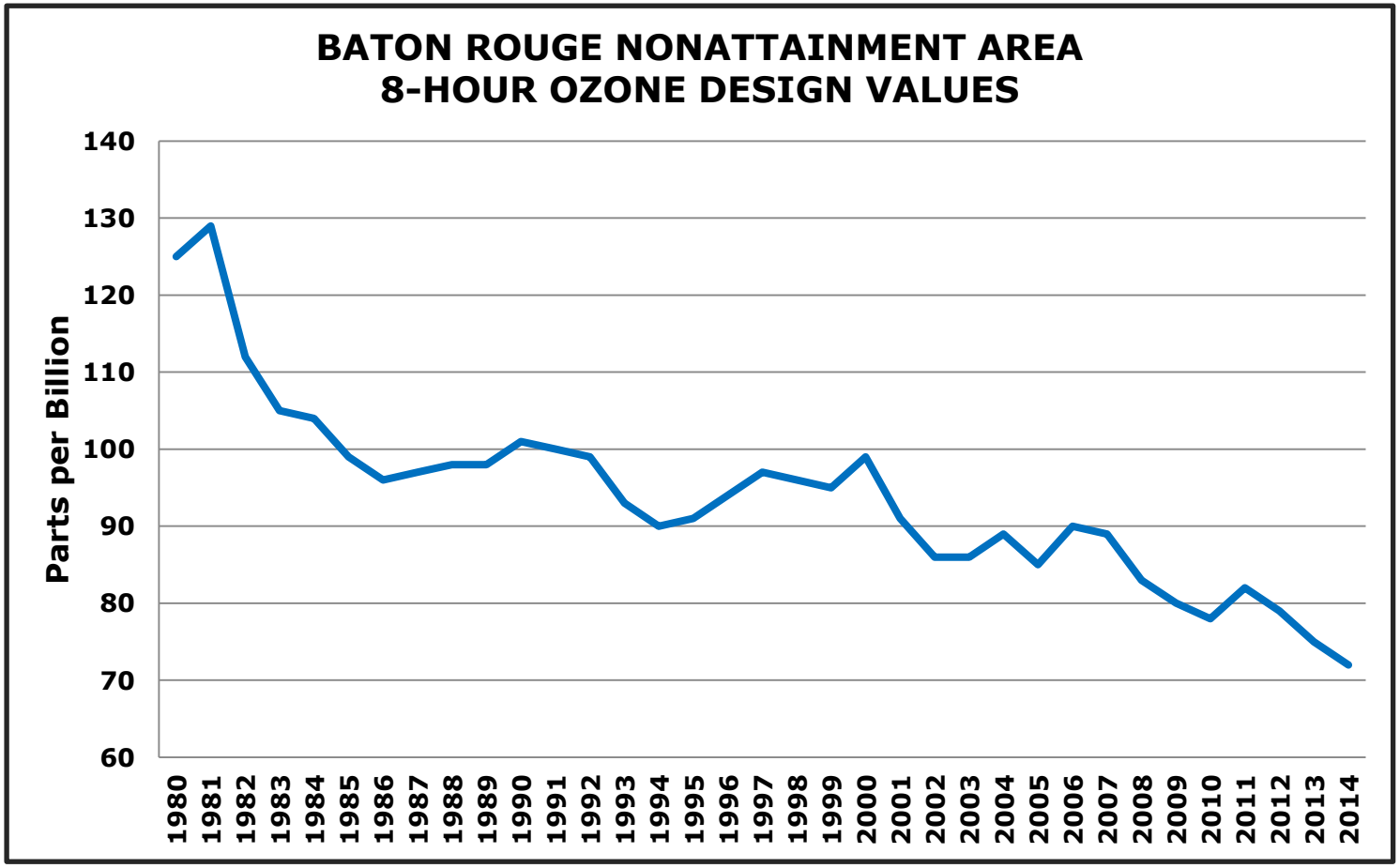
PERSPECTIVE

MAGNITUDE OF OZONE PROBLEM BASED ON 2013 DATA



Data source: LDEQ

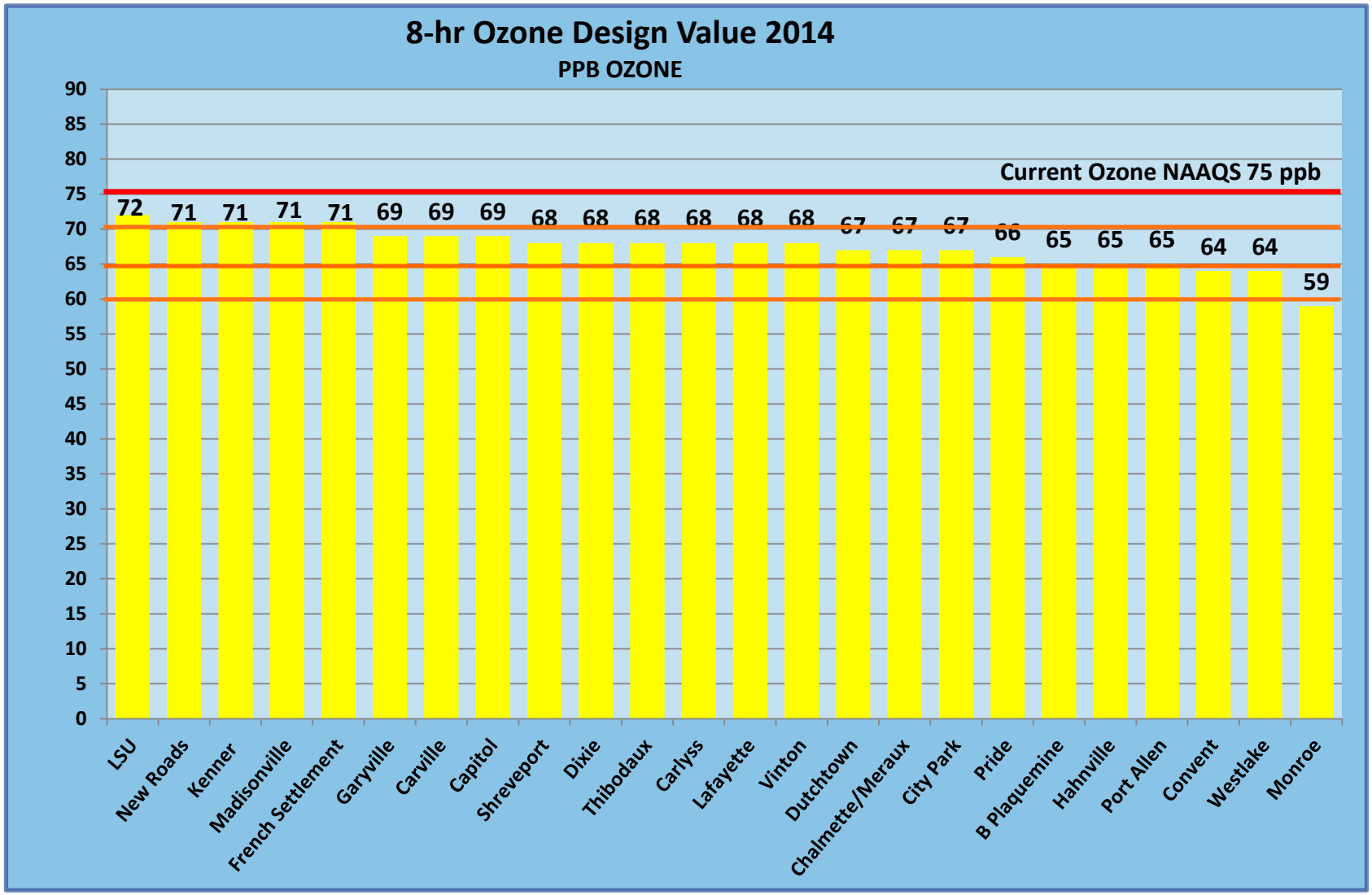
OZONE PROGRESS IN THE BATON ROUGE OZONE NONATTAINMENT AREA



Data source: LDEQ

Potential Impacts of Proposed Ozone Standard Revision

- Designations and Classifications
- Metro Areas Designated Nonattainment
- Economy and Jobs
- Energy
- Transportation
- LDEQ


8-hr Ozone Design Value 2014
PPB OZONE
Current Ozone NAAQS 75 ppb
90
85
80
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LSU
New Roads
Kenner
Madisonville
French Settlement
Garyville
Carville
Capitol
Shreveport
Dixie
Thibodaux
Carlyss
Lafayette
Vinton
Dutchtown
Chalmette/Meraux
City Park
Pride
B Plaquemine
Hahnville
Port Allen
Convent
Westlake
Monroe

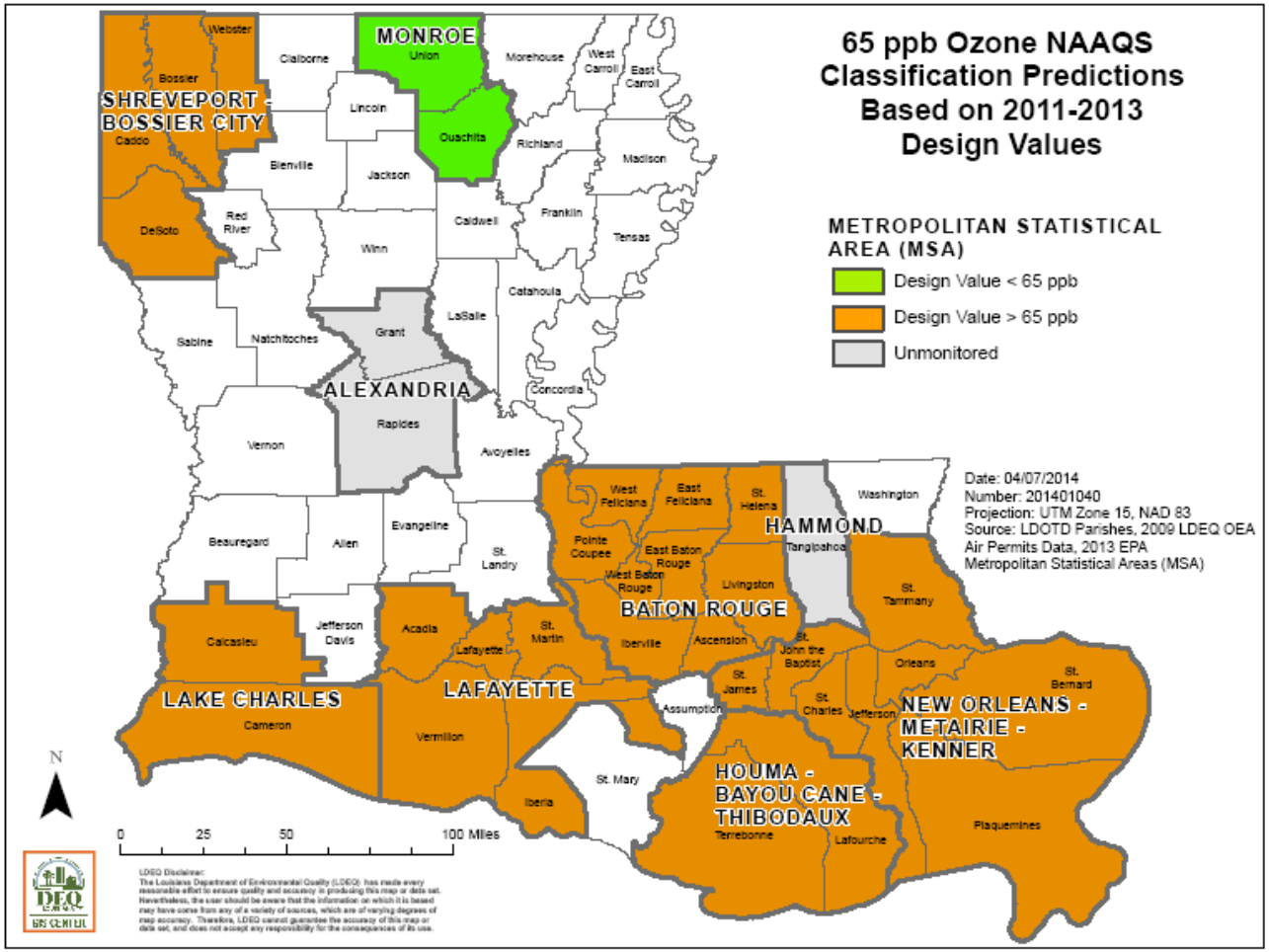
Potential Impacts of Proposed Ozone Standard Revision
Designations and Classifications
(Based on 2014 Ozone Design Values)

MSA	75	70	65	60
New Orleans-Metairie-Kenner	A	NA	NA	NA
Baton Rouge	A	NA	NA	NA
Shreveport-Bossier City	A	A	NA	NA
Lafayette	A	A	NA	NA
Houma-Bayou Cane-Thibodaux	A	A	NA	NA
Lake Charles	A	A	NA	NA
Monroe	A	A	A	A
Alexandria	NM	NM	NM	NM

Note: A=Attainment; NA=Nonattainment; NM=Not monitored

- Assuming EPA follows its 2012 Classifications Rule (77 FR 30160; May 21, 2012), all metro areas would be classified as “Marginal” for any standard set from 65 to 70 ppb (based on 2014 design values).

Potential Impacts of Proposed Ozone Standard Revision
Designations and Classifications
(Based on 2014 Ozone Design Values)



Potential Impacts of Proposed Ozone Standard Revision
Designations and Classifications

Newly Designated Nonattainment Parishes

- Major source threshold set at 100 tpy of either VOC or NOx
- Emission inventory submittals required on industrial sources
- Nonattainment New Source Review permitting requirements (e.g. LEAR, offsets at 1.1 to 1)
- Projects subject to Transportation Conformity
- Projects subject to General Conformity (federal, non-highway projects)

Potential Impacts of Proposed Ozone Standard Revision

Economy and Jobs

- Depending upon the final number, the Baton Rouge area along with some other currently attainment metro areas will fall into nonattainment status.
- Nonattainment status will seriously curtail Louisiana's industrial renaissance activity in affected MSAs.
- The economic costs of projects canceled or relocated because of issues related to ozone nonattainment (e.g. LEAR, offsets) are not included in costs of the ozone standard revision.
- Huge compliance costs and loss of jobs will hit all sectors of the economy and reduce average household consumption.

Potential Impacts of Proposed Ozone Standard Revision

Economy and Jobs

What Could New Ozone Regulations Cost Louisiana?

$53 Billion Gross State Product Loss from 2017 to 2040

116,983 Lost Jobs or Job Equivalents per Year

$189 Billion in Total Compliance Costs

*60 ppb

$2,360 Drop in Average Household Consumption per Year

$10 Billion More for Residents to Own/Operate Their Vehicles Statewide (2017 to 2040)

Up to a **15 Percent Increase** in Residential Electricity Prices (National Average)

Up to a **32 Percent Increase** in Residential Natural Gas Prices (National Average)

Shutdown of **80 Percent** of **Louisiana's** Coal-Fired Generating Capacity

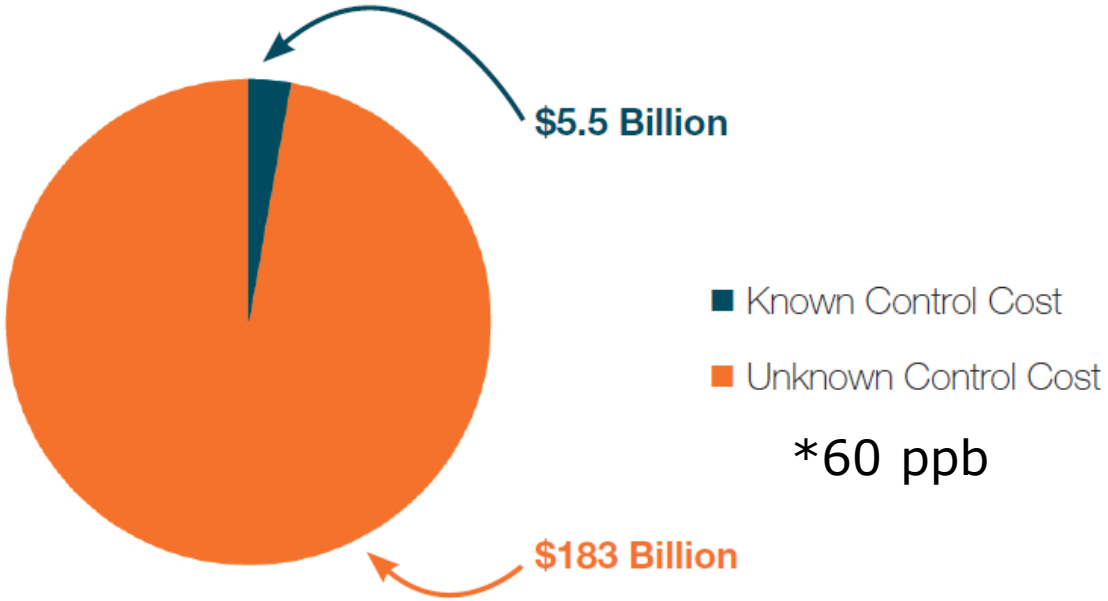
LABI Louisiana Association OF BUSINESS AND INDUSTRY

NATIONAL ASSOCIATION OF Manufacturers

Potential Impacts of Proposed Ozone Standard Revision

Economy and Jobs

Figure 3: Total Louisiana Compliance Costs: $189 Billion



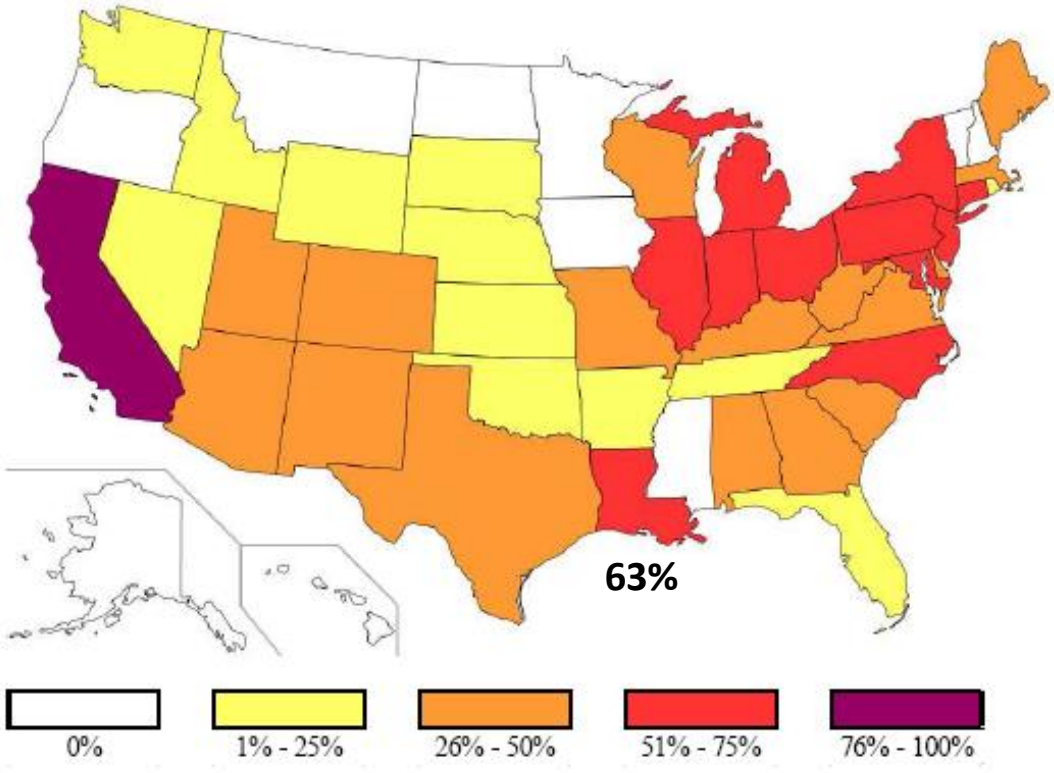
LABI Louisiana Association of Business and Industry

National Association of Manufacturers

Potential Impacts of Proposed Ozone Standard Revision

Energy

Figure 5: Necessary NO_X Emission Reductions for 60 ppb (Percentage Reduction from Baseline 2018 NO_X Emission Projections)



Note: Map shows necessary percentage reductions below 2018 baseline NO_X emission projections. States with 0% reductions would comply with a new ozone standard of 60 ppb in 2018 based on this analysis.

Source: NERA calculations as explained in text and Appendix B

ENERGY MARKET IMPACTS OF RECENT FEDERAL REGULATIONS ON THE ELECTRIC POWER SECTOR

ENERGY VENTURES ANALYSIS

The Administration's proposal to regulate carbon dioxide emissions from U.S. power plants will add costs to both electricity and natural gas for all customers. The U.S. will face an estimated $284 billion annual increase in power and gas costs for residential, commercial and industrial customers beginning in 2020 compared to 2012, driven by a host of EPA regulations, reduced use of coal and higher natural gas prices. This represents a 60% rise with annual power and gas costs increasing each year thereafter.

STATE IMPACT

Louisiana

Average annual Louisiana household electricity and gas bills would increase by more than $750 in 2020

This represents a 46% increase in average annual household power and gas bills, with average annual power bills increasing almost $450 and average home gas heating bills rising by over $310.

The total annual cost of power and gas will grow to over $24 billion in 2020

This represents an almost $15 billion annual cost increase for electricity and gas in the state. Annual power costs would increase by $3.2 billion and annual gas costs would increase by $11.6 billion.

Power sources will change dramatically

Natural gas generation is expected to increase by more than 140% in Louisiana at the same time that EPA expects wholesale natural gas prices to more than double.

Projected Residential Power and Gas Cost Increases				
Residential	2012	2020	Increase	Increase
Avg. Annual Electricity Bill	$1,256	$1,702	$446	36%
Avg. Annual Gas Bill	$391	$704	$313	80%
Total	$1,647	$2,406	$759	46%

Projected Industrial Power Rate Increase				
Industrial	2012	2020	Increase	Increase
Electricity Rate (per kWh)	4.8¢	7.0¢	2.2¢	48%

Projected Power and Gas Cost Increases for Residential, Commercial and Industrial Customers				
All Sectors	2012	2020	Increase	Increase
Total Electricity Cost (BB)	$5.8	$9.0	$3.2	55%
Total Gas Cost (BB)	$3.7	$15.3	$11.6	311%
Total (BB)	$9.5	$24.3	$14.8	154%

Potential Impacts of Proposed Ozone Standard Revision

Transportation

- According to the NAM report, it will cost $10 billion more for residents of Louisiana to own/operate their vehicles statewide (2017-2040).
- All nonattainment areas will be required to demonstrate conformity of transportation plans to state attainment plans. Failure to demonstrate conformity can jeopardize federal highway funds.
- A lower ozone standard will mean a lower emissions budget. It will be very difficult to demonstrate conformity for transportation plans containing major new highway projects
- Because of draconian cuts in NOx emissions expected to be required to attain the new ozone standard, new ozone mitigation measures (regulatory and voluntary) can be expected for on-road and off-road mobile sources.

Potential Impacts of Proposed Ozone Standard Revision

LDEQ

- LDEQ is presently seriously underfunded and understaffed. It also has been bleeding institutional knowledge over the past decade as many experienced staffers have retired or left.
- With the promulgation of a new, lower ozone standard, LDEQ will inherit a number of new ozone nonattainment areas to monitor and to manage (e.g. SIPs, conformity determinations).
- LDEQ will have to accommodate development of different attainment strategies for new nonattainment areas with differing emissions profiles (e.g. Lake Charles vs Shreveport).
- For the most part, the agency will be working with individuals in the new nonattainment parishes with little or no knowledge of the issues related to nonattainment status (e.g. transportation conformity).
- EPA acknowledges that the majority of emission controls needed to meet the new standards are unknown. LDEQ does not have the resources to research and implement new emissions controls.
- LDEQ will be under enormous pressure as political constituencies begin to feel the impacts and costs of compliance with the new standards.

Potential Impacts of Proposed Ozone Standard Revision

Proposed Mitigation Strategies

- Availability of Emission Reduction Credits (ERCs) for Nonattainment New Source Review Permitting
  - Open All Sources of Emissions for Generating Emission Reduction Credits (e.g. Point, Mobile, Area)
  - Greater Flexibility in Emissions Trading (Interpollutant Trading)
  - Inter-Nonattainment Area trading
- Emissions Reduction Strategies
  - Regional Air Quality Modeling
  - Innovative Voluntary Measures (EPA Advance Program)

Potential Impacts of Proposed Ozone Standard Revision

PROPOSED MITIGATION STRATEGIES

LDEQ Exploring New Strategies for Earning Emission Reduction Credits to Help Permit New Industrial Projects and Expansions in Nonattainment Areas

- Production of ERCs presently limited to stationary sources (industries)
- Proposing to Open Production of ERCs to Mobile (On-and Off-Road) and Area Sources as Well (Not Unprecedented –CA MERCs for Power Plant, Cash for Clunkers, Bay District IERCs)
- Examples of Possible Projects: Diesel Engine Retrofits for Marine Vessels, Truck Stop Electrification, Sewage Treatment System Upgrades, Energy Efficiency Projects, Alternative Energy (e.g. Solar)
- LDEQ Rule Change is Currently Being Considered

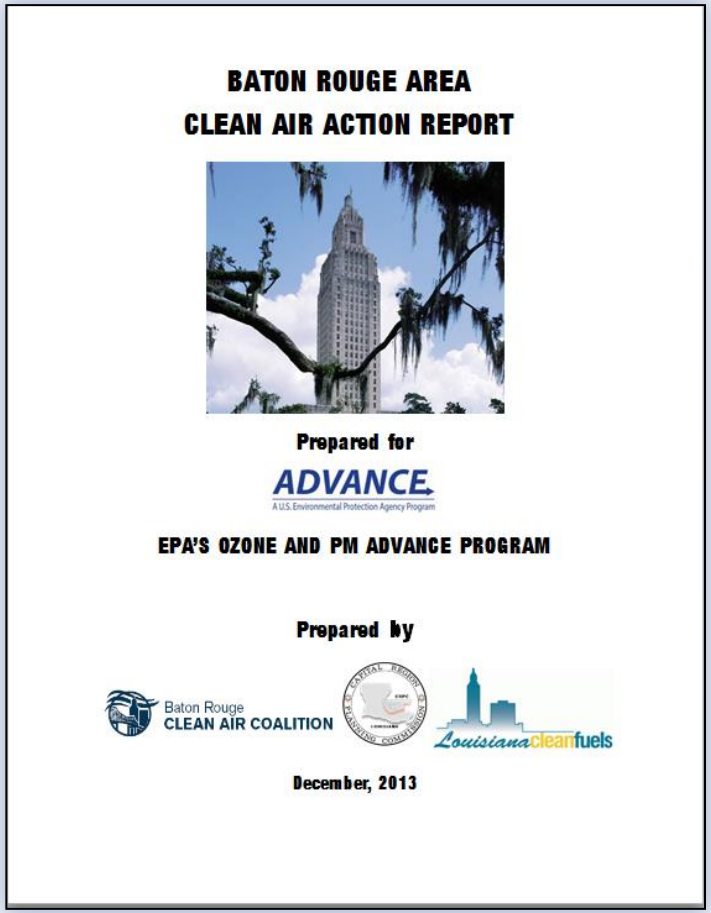
Potential Impacts of Proposed Ozone Standard Revision

Voluntary Emission Reduction Strategies

- *Alternative Energy*
- *Energy Efficiency*
- *Episodic Controls*
- *Urban Heat Island*
- *Research/Application of New Technologies*
- *Public Outreach and Education*
- *Other*

Potential Impacts of Proposed Ozone Standard Revision

PROPOSED MITIGATION STRATEGIES


BATON ROUGE AREA
CLEAN AIR ACTION REPORT

Prepared for

ADVANCE
A U.S. Environmental Protection Agency Program

EPA'S OZONE AND PM ADVANCE PROGRAM

Prepared by

Baton Rouge
CLEAN AIR COALITION

Louisiana cleanfuels

December, 2013

The objectives of this report were:

1. To characterize the Baton Rouge area with respect to its air quality
2. To document the progress the Baton Rouge area has made in air quality improvements and the many efforts that have been made to realize those improvements, and
3. To present a plan for future efforts to further improve Baton Rouge area air quality in order to meet EPA's requirement for a "Path Forward" plan within its Advance Program.

http://epa.gov/ozonepmadvance/pdfs/20131220batonrouge.pdf

Potential Impacts of Proposed Ozone Standard Revision

CONCLUSIONS

- Barring congressional strictures on implementation funding or litigation stays, we can expect implementation of a new ozone standard in the range of 65-70 ppb to begin this October.
- A new ozone standard within this range will present severe impacts to the Louisiana economy and essentially bring the state's industrial renaissance to a grinding halt.
- Depending on the final ozone level selected for the new standard, anywhere from 2 to 6 of the state's metro areas will be designated as nonattainment.
- An already stretched LDEQ will face a daunting increase in responsibilities and effort with a lower ozone standard.
- LDEQ and member stakeholders of their ozone ADVANCE program are already working on innovative strategies to mitigate ozone levels in Louisiana metro areas.
- Organizations and individuals concerned about the potential impacts of a new ozone standard should submit comments to EPA.

Close/Questions?