

WRITTEN TESTIMONY OF KEVIN ABERNATHY

DIRECTOR OF REGULATORY AFFAIRS, MILK PRODUCERS COUNCIL ¹

VICE CHAIRMAN, DAIRY CARES²

MEMBER, USDA AGRICULTURAL AIR QUALITY TASK FORCE

BEFORE THE

**COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
SUBCOMMITTEE ON ENVIRONMENT**

**HEARING TOPIC: “REALITY CHECK PART 2: IMPACT OF EPA’S PROPOSED
OZONE STANDARDS ON RURAL AMERICA”**

APRIL 29, 2015

Chairman Bridenstine, Vice Chairman Westerman, Ranking Member Bonamici and Distinguished Members of the Subcommittee:

Thank you for holding this hearing on the importance of the U.S. Environmental Protection Agency’s proposed new National Ambient Air Quality Standards (NAAQS) for ozone and the potential for these standards to impact rural America.

I have lived in rural America all of my life, specifically in the San Joaquin Valley of California. If one were to rely only on news media descriptions of the Valley in recent years, one likely would conclude at least three things:

- 1) The Valley is the nation’s agricultural powerhouse,
- 2) The Valley is struggling with historic drought, and
- 3) The Valley remains one of the nation’s most-challenging air basins when it comes to meeting air quality standards.

All of these things are true, but they don’t tell the whole story. In fact, the real story is one of tremendous good news – how agriculture, business and regulators in the San Joaquin Valley have worked together creatively and with ingenuity to dramatically improve air quality and increase efficiency in use of water, energy and other resources, even as they have dramatically

¹ www.milkproducerscouncil.org

² www.dairycares.com

increased productivity. That has been the story for decades and it could continue to be the story going forward if we act wisely.

But we are at a crossroads today. The federal Clean Air Act – born in 1963 and subject to major amendments in 1970, 1977 and 1990 – produced great strides forward in improved air quality across our nation. Because of these major improvements, the job of achieving even cleaner air is getting significantly more complex and difficult. And the Act as envisioned in 1990 is no longer up to the task.

Regional air pollution regulators, despite their success in actually cleaning the air, are mired in unnecessary bureaucracy related to implementing multiple and redundant standards for criteria pollutants. They are forced to waste time and money implementing measures they know won't help air quality, ironically diverting their attention from potential measures that could help. They are held accountable for meeting standards that cannot be met without controlling pollution from sources they have no authority to regulate. And in some cases, they are being required to meet targets that are unreachable with technology available today – and that could not be met even if major sectors of the economy were shut down.

This results in significant cost and uncertainty that not only increases costs for taxpayers – without benefits to those taxpayers – but places huge burdens on the economy in the form of increased business costs and uncertainty. The costs are passed through the entire economy, including agriculture and dairy.

In short, we might describe the Clean Air Act as implemented today as an airplane on autopilot; it has come a long way in the right direction, but now is headed straight toward a mountain. The impact of the coming catastrophe will definitely be felt in the San Joaquin Valley, but it will be also be felt in many other parts of America. I will try to share some ideas today about how we can get that airplane off autopilot, steer it in the right direction, and continue a safe flight that achieves both cleaner air and a stable economy in parts of rural America like the San Joaquin Valley.

The San Joaquin Valley: Air quality challenges, investments and successes

The San Joaquin Valley (see Figure 1) is home to 4.2 million people, about 11 percent of California's population. The valley has the largest agriculture-producing county in the nation (Fresno) and the nation's number-one dairy county (Tulare). In fact, seven of the valley's eight counties are in the nation's top 10 agricultural producing counties, and the valley contains 27,000 farms. Almost 18 percent of the *nation's* dairy

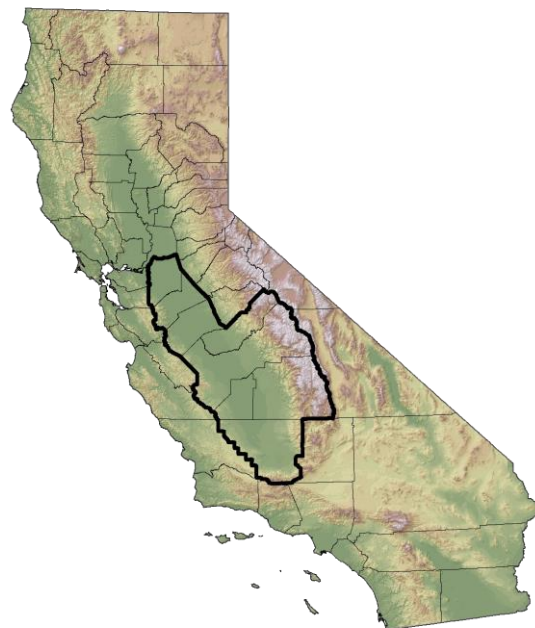


Figure 1. California's eight-county San Joaquin Valley. *Source: SJVAPCD*

production comes from these eight counties. The California dairy industry is responsible for more than 443,000 jobs, while dairy farming and related industries generate \$63 billion in economic activity³. Overall, agricultural production and processing industries in the Valley accounted for 37.8 percent of regional employment.⁴

While farming and agricultural processing are the lifeblood of the Valley, it is also home to 80 percent of the state's oil production and California's two major trade corridors, Interstate 5 and Highway 99.

The San Joaquin Valley has unmatched challenges in meeting NAAQS. The geography and meteorology of the valley, which is nearly completely surrounded by mountains, creates temperature inversions and stagnant air. To make matters worse, pollution is transported into the valley from the San Francisco Bay Area, and even as far away as Asia, creating high background levels. Goods movement – serving all areas of the state and neighboring states – relies on major routes through the San Joaquin Valley. These conditions combine to create an enormous challenge, even though the Valley generates substantially less pollution per square mile than other areas of California (6 times less than the Bay Area and 10 times less than the South Coast/Los Angeles area).⁵

Despite these huge challenges, by several measures, dramatic improvements in air quality have been achieved:

- Number of days of exceedance of the 1997 PM_{2.5} standard have dropped dramatically since 1999 (Figure 2);
- Inventories of nitric oxides (NO_x, an ozone and particulate matter precursor) have dropped by more than half since 1990 (Figure 3);
- Combined NO_x and Volatile Organic Compounds (VOCs) inventories have dropped by nearly two-thirds since 1990 (Figure 4);
- Days over the 8-hour standard for ozone have dropped by 84 percent since 2003 (Figure 5); and
- Total hours over the 1-hour ozone standard have dropped by 97 percent since 1996 (Figure 6).

³ <http://www.californiadairyroom.com/node/289>, accessed April 24, 2015.

⁴ <http://aic.ucdavis.edu/publications/moca/moca09/moca09chapter5.pdf>; accessed April 24, 2015.

⁵ April 16, 2015 presentation on the 2015 Plan for the 1997 PM_{2.5} Standard, San Joaquin Valley Air Pollution Control District.

http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2015/April/presentations/07.pdf, accessed April 24, 2015.

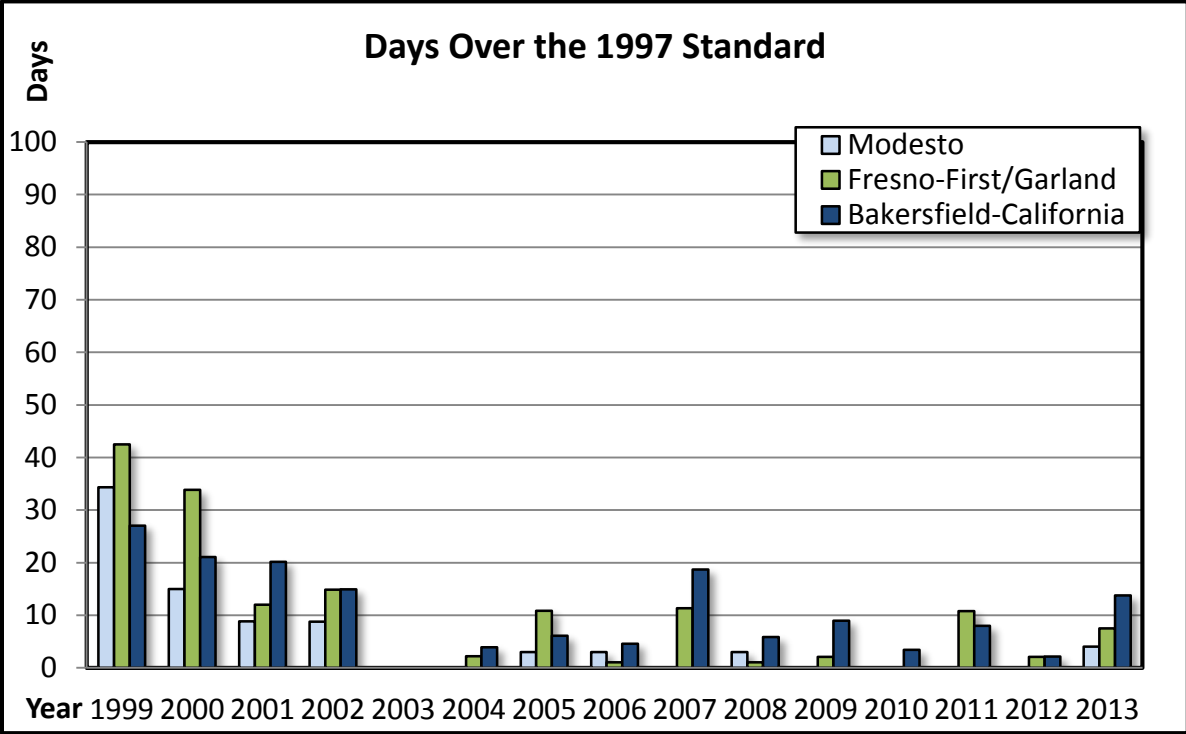


Figure 2. Number of days of exceedance of the 1997 PM_{2.5} standard in the San Joaquin Valley Air Pollution Control District. *Source: SJVAPCD*

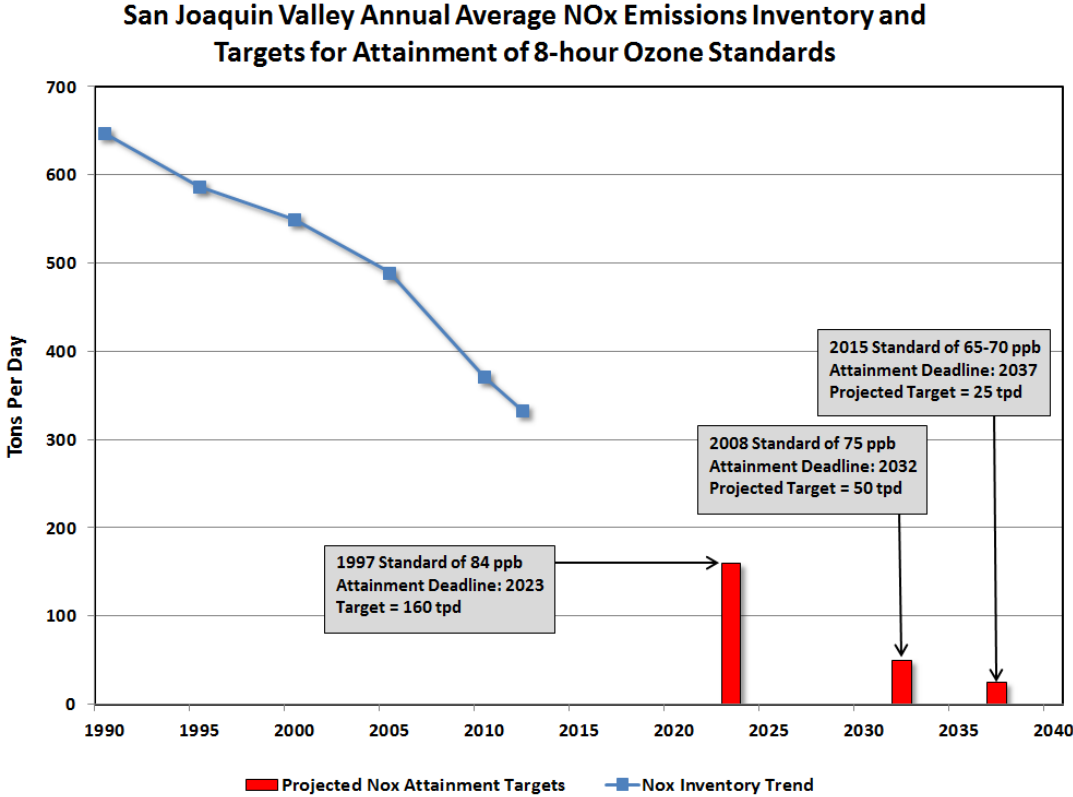


Figure 3. Inventories of nitric oxides since 1990. *Source: SJVAPCD*

SJV Population Increases and Emissions Decreases

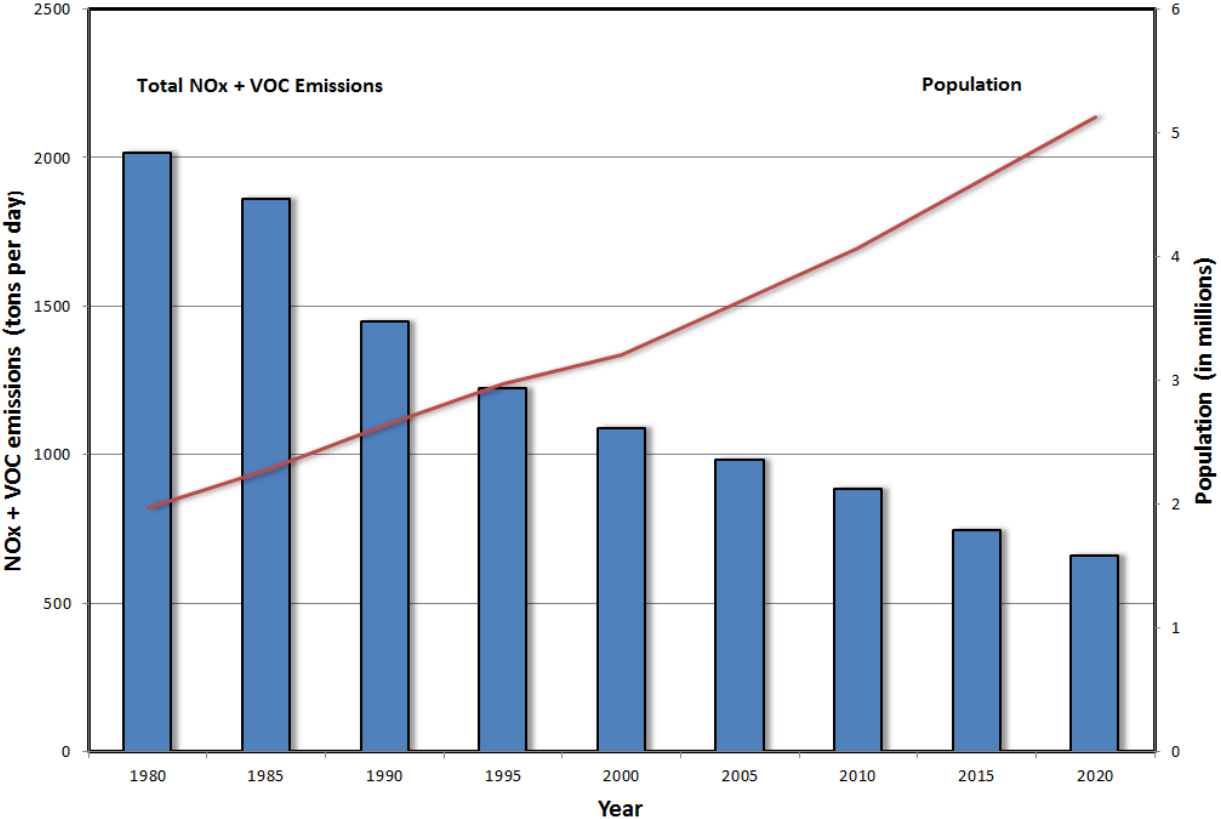


Figure 4. NO_x and VOCs inventories since 1990. *Source: SJVAPCD*

County	2003	2014
San Joaquin	2	0
Stanislaus	18	4
Merced	54	1
Madera	14	5
Fresno	97	22
Kings	15	4
Tulare	92	13
Kern	116	14
TOTAL	408	63

Figure 5. Days over the 8-hour standard for ozone since 2003. *Source: SJVAPCD*

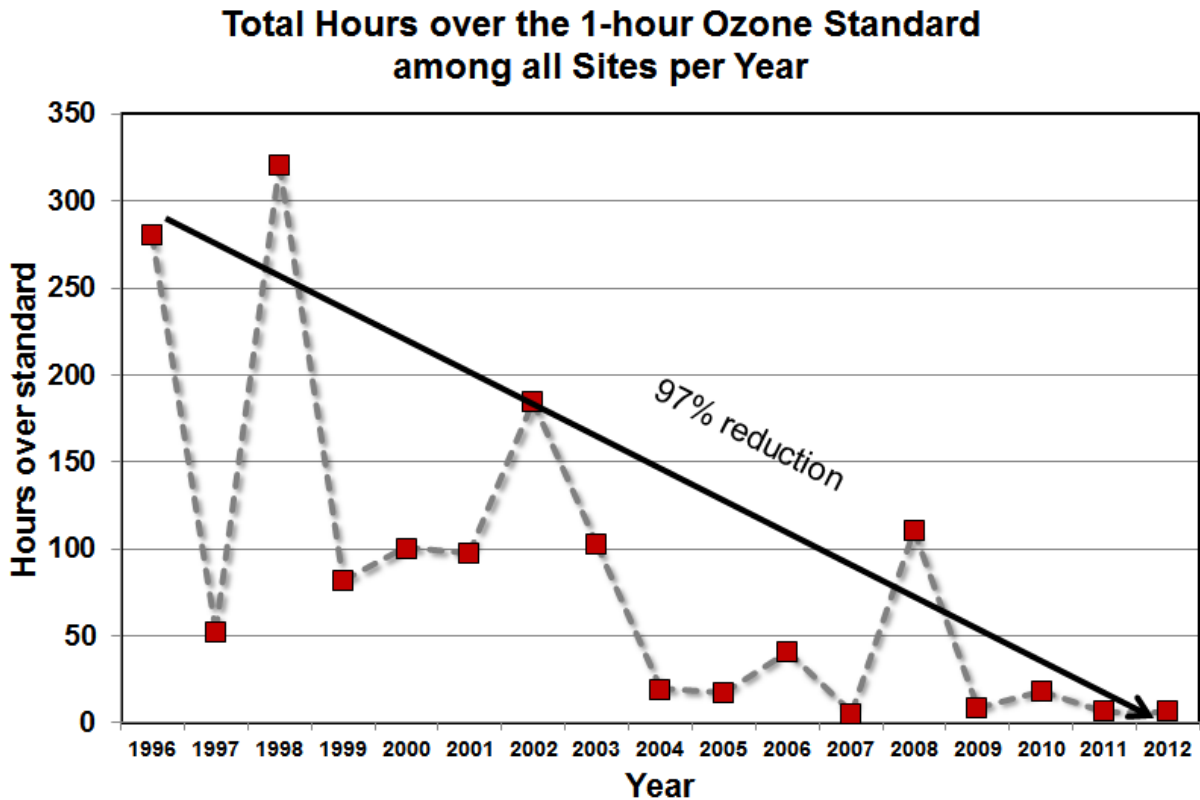


Figure 6. Total hours over the 1-hour ozone standard since 1996. *Source: SJVAPCD*

These reductions – an overall 80 percent reduction from stationary sources under the San Joaquin Valley Air Pollution Control District’s (SJVAPCD’s) jurisdiction – came via a “no-stone-left-untouched approach” that left no economic sector untouched. Beginning in 2003, the SJVAPCD launched major regulatory efforts to reduce emissions from agriculture, including but not limited to:

- Rule 4702 (stationary internal combustion engines);
- Rule 4570, the nation’s strictest and most expensive regulation related to reducing emissions of VOCs from dairy farms; and
- Rule 4550, which targets reductions of fine particulate matter and fugitive dust from dairies and other farms.

Costs of improvements

The dramatic improvements in air quality have not come without cost. According to the SJVAPCD:

- The SJVAPCD and/or the state of California has enacted the nation’s toughest regulations for cars and trucks, consumer products and farms and dairies;

- More than 600 rules have been implemented in the San Joaquin Valley for stationary and area sources since 1992;
- Rule 4570 for dairies and other confined animal facilities is the district's most expensive individual rule, with a price tag of \$61.5 million, and this does not include costs to dairies related to complying with other rules;
- All told, business have spent more than \$40 billion complying with these rules; and
- Another \$1 billion of public and private funds have been invested in incentive programs.

It is also important to realize that these improvements in air quality were preceded by and supported by a significant cooperative agreement between governments and the private sector to carry out extensive air quality research programs, which began in earnest in 1990 and continue to this day. Under the auspices of the San Joaquin Valleywide Air Pollution Study Agency, and in cooperation with the Central California Air Quality Studies Policy Committee, more than \$50 million in air quality research has been conducted since 1990. This work has included technical studies, data analysis and modeling at more than 400 weather and pollution monitoring sites in Central California, augmented by aircraft flights and weather balloons. Nearly \$6 million of the research funding was provided by the private sector, about \$16.7 million from the federal government, and about \$28 million from air districts and state and local governments.⁶

Challenges moving forward

There is no question that in the campaign for cleaner air, the low-hanging fruit has already been picked. Having regulated virtually every stationary and area source, and with other agencies regulating mobile sources, the SJVAPCD today has reduced emissions by 80 percent – but *“need(s) another 90 percent reduction in emissions just to meet a standard that will soon be replaced with an even tougher standard.”*⁷

It is also clear that it will be extremely difficult if not impossible to meet current federal ozone standards – let alone more stringent proposed standards – without major advances in technology that are not currently available, and without shutting down major industries. In fact, analysis by the SJVAPCD (Figure 7) shows that meeting proposed ozone standards would require eliminating *all existing emissions* from:

- Stationary and area sources;
- Off-road equipment;
- Farm equipment;
- Passenger vehicles; and
- Heavy-duty trucks

⁶ June 29, 2014 memorandum to San Joaquin Valleywide Air Pollution Study Agency, http://www.valleyair.org/Board_meetings/Study%20Agency/agendas/2014/June/final/04.pdf

⁷ Quote from SJVAPCD Executive Director and Air Pollution Control Officer Seyed Sadredin, in presentation to “Workshop on Ozone NAAQS Science and Policy” on April 7, 2015.

Figure 3, while describing a rapidly declining ozone inventory between 1990 and 2015, also illustrates that NO_x reductions to near-zero levels will be needed to achieve the proposed standards, meaning that nearly every car, truck, tractor, boiler and other combustion sources in the valley would need to either be eliminated or produce nearly zero emissions within the next two decades.

Further complicating the matter is the issue of transboundary transport of pollution. According to the SJVAPCD, while the majority of emissions in the valley are generated locally, “policy-significant” levels ozone are transported into the valley from other areas, including areas as near as the San Francisco Bay area and as far away as Asia. Evidence suggests these contributions may add from between 35 parts per billion of ozone to more than 50 ppb, creating significant, uncontrollable (by SJVAPCD) baseline ozone levels. Given that a standard as low as 65 ppb is being proposed, this brings into question whether the standard would be attainable.⁸ Even if these targets may be achievable with future technology advancements, it seems unlikely they would be achievable within the existing timelines prescribed in the federal Clean Air Act.

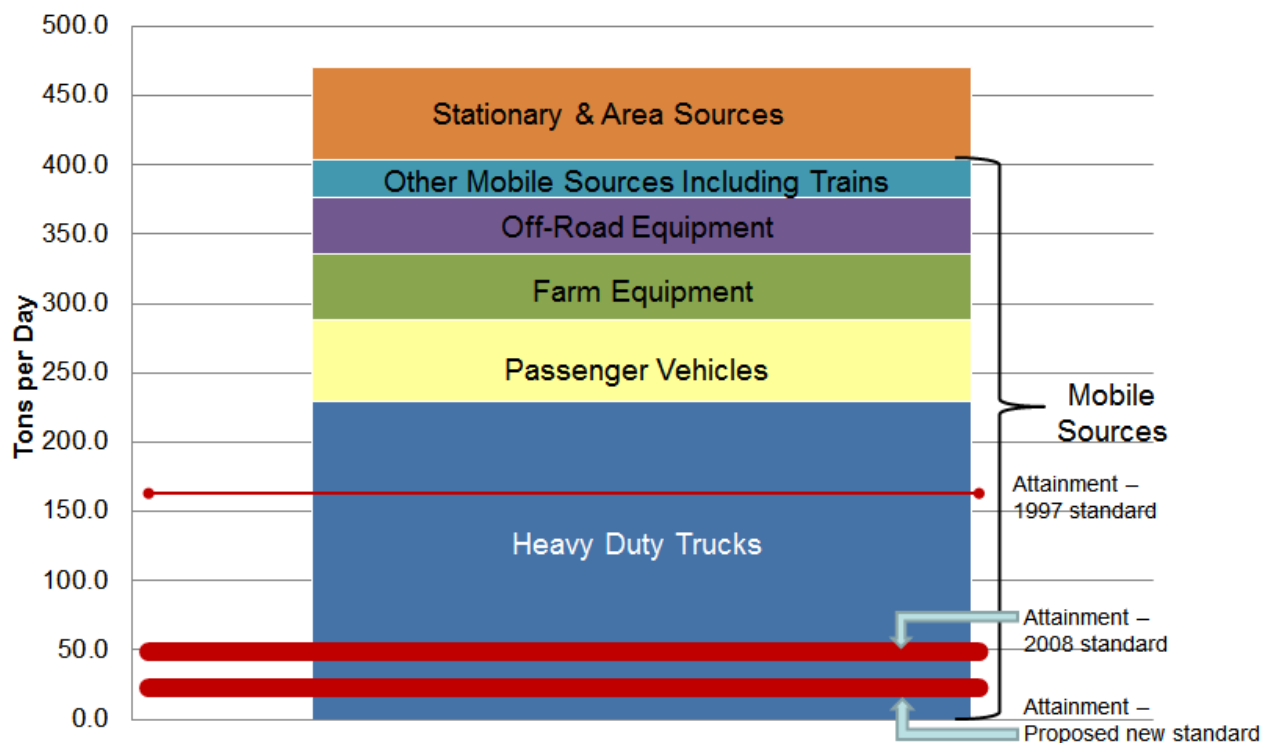


Figure 7. Meeting proposed federal ozone standards in the San Joaquin Valley would require eliminating the vast majority of existing sources. *Source: SJVAPCD*

⁸ “Technology and Policy Options, The Search for Effective Solutions,” Transboundary Ozone Pollution Conference, April 2, 2015 presentation, S. Sadredin. See Attachment A.

Is this problem limited to the San Joaquin Valley?

Those who think achieving a 65 to 70 ppb ozone standard will only be a problem in the admittedly unique San Joaquin Valley will be in for a rude surprise. As Figure 8 shows, at least 44 states are at risk of violating the proposed ozone standard.

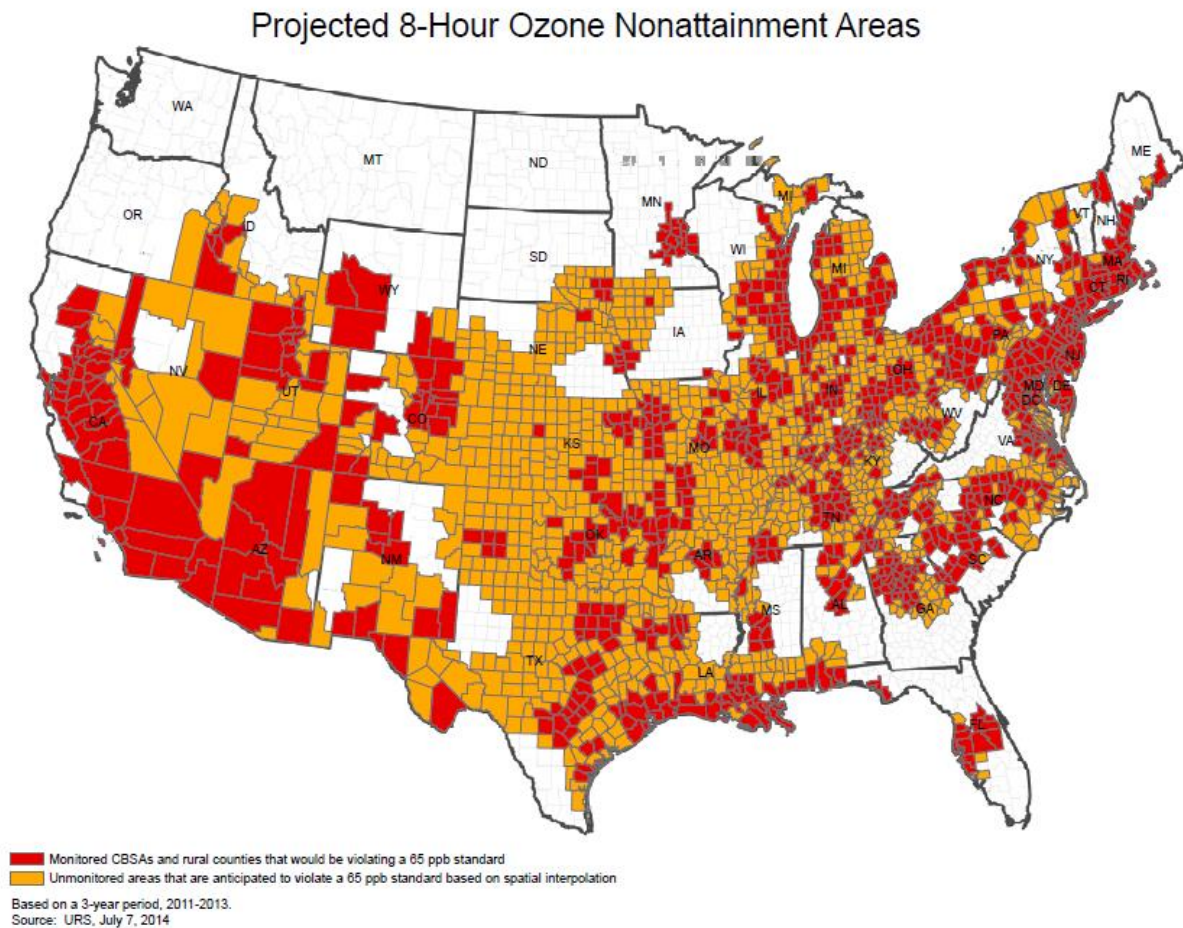


Figure 8. Projected 8-hour ozone nonattainment areas impacting 44 states. *Source: URS, July 7, 2014.*

Is implementation of the Clean Air Act structured to handle the coming non-attainment crisis?

Even with today's NAAQS for ozone, significant and unnecessary problems are occurring during implementation of the federal Clean Air Act. We can describe these problems and offer practical solutions, which do not force an unnecessary choice between protecting the economy and protecting air quality.

Problem 1 is implementing multiple NAAQS standards. Today, when a newer, more stringent standard is adopted, the older standard remains in place. This creates multiple, redundant planning timelines and public processes. For example, the SJVAPCD is currently addressing four pending standards for ozone and four additional standards for PM_{2.5}. In 2016 alone (after addressing the 1997 PM_{2.5} standard during 2015) the district will be forced to report progress again on the 2006 *and* 2012 standards for, incredibly, PM_{2.5}. On top of that, SJVAPCD will also have to address the 2008 standard for ozone in 2016.

These multi-layered planning timelines exponentially increase the cost of implementing attainment plans and reporting on progress. They do nothing to improve air quality, because air quality could be protected by simply aligning the existing plans to newly adopted standards.

This additional administrative burden not only raises costs for taxpayers, but increases the costs of compliance for the regulated community, again without an air quality benefit. Businesses are also burdened with the substantial uncertainty associated with tracking multiple State Implementation Plans, associated rulemaking and permitting processes, and maintaining understanding about likely future requirements. This makes it that much more difficult to plan equipment retirement and replacement and potential future expansions or facility upgrades.

Specific recommendations on how to address this issue, without sacrificing air quality, have been put forward by SJVAPCD in its “2015 Federal Clean Air Act Modernization Proposal” (see Attachment B). We support these recommendations.

A second problem is the heavier reliance air regulators will need to make on new or transformative technologies to reach newly adopted standards. This is an increasing problem as the standards reach near baseline levels. There is substantial uncertainty about whether these technologies – sometimes called “black box” technologies because it is not yet understood even what the technologies will be – will be technically or economically feasible. The Clean Air Act today does not currently allow economic feasibility to be considered when considering a more stringent NAAQS; we believe it is time to revisit this issue because adoption of unattainable standards automatically leads to requirements that air regulators work to achieve those unattainable standards. As standards move closer and closer to baseline, the luxury of waiting until the future to find out if they can be met no longer exists. SJVAPCD has proposed very reasonable, narrow and specific amendments to the Clean Air Act that address this problem (Attachment B).

A third problem is rigidity in the requirements for reporting progress on reductions from sources of criteria pollutant precursors. Regulators have long recognized that not all precursors are created equal. For example, in the San Joaquin Valley, oxides of nitrogen have proven to be 20 times more powerful than VOCs in creating ozone. Yet regulators are handcuffed into achieving equal reductions of both VOCs and nitrogen oxides as they report Reasonable Further Progress in attaining a standard. Alternative strategies that achieve an equal or even greater amount of pollution reduction are not allowed. Again, SJVAPCD has suggested specific changes that would solve this issue without sacrificing achievable air quality goals (Attachment B).

There are additional technical changes that SJVAPCD has proposed related to when contingency measures should be required, and to clarify the role of vehicle pollution control measures in attaining standards after recent court rulings left this important program in question. In summary, SJVAPCD has suggested several specific, workable changes to the sections 172, 181, 182 and 189 of the Clean Air Act. We hope your subcommittee will take these under advisement.

State control on mobile agricultural equipment

The California Air Resources Board is considering new regulations for mobile agricultural equipment, potentially to be adopted in 2016, that would aim for reductions from this source toward meeting NAAQS in 2023 and 2032. CARB has identified most equipment with 25 horsepower or larger engines as targets for this regulation, including tractors, harvesters, combines, balers, swathers, sprayers, forklifts and all-terrain vehicles.

While these regulations have not been developed, it points to the continued burden placed on rural communities and agriculture as NAAQS are continually tightened down. Furthermore, it speaks to the need for alignment and conformity in state and federal rules regarding mobile agricultural equipment. Because of their nature and sometimes seasonal use, many mobile agricultural equipment types can have very long service lives and it will be important to carefully consider these special factors when making policy decisions.

Impacts to business and dairies

It is clear that past decisions related to NAAQS have had real-world unintended consequences, including generating unnecessary administrative and business costs that do not benefit air quality. Absent reform of the Clean Air Act, this situation will only worsen and become more prevalent across the United States.

California dairies already operate under the most stringent and expensive air quality regulations in the world. However, those regulations represent only a slice of environmental regulatory costs for California dairies, which also are meeting the nation's most stringent and expensive water quality protection regulations. The state's dairy industry, including processors and producers, are paying additional direct and indirect costs associated with California's Global Warming Solutions Act of 2006, which taxes large dairy processors for greenhouse gas emissions while increasing energy costs for other sectors, including dairy farms, who require fuel and electricity to operate. And all of this is occurring in the context of a several-years-long drought. Contrary to news media reports, agriculture, including dairies, has suffered dramatic cutbacks in water supplies (between 65 percent and 100 percent cutbacks in each of the past three years for contractors in the federal Central Valley Project and State Water Project).

Though California remains the nation's top agricultural and dairy state, some are wondering how long this will last. Nearly 500 of the state's dairies (about one-fourth) have gone out of business in the past five years. At least seven other states, including Texas, Kansas, Nebraska, Nevada, Iowa, Missouri, and North Dakota (Attachment C) are actively recruiting California dairy

operators to relocate to their states, and quite a few of our dairies have taken them up on the offer. In fact, a prominent dairy leader in Idaho recently thanked several visitors from California for “sending us your best dairy farmers.”

However, it seems that if we continue to follow the current path, we are heading toward a place where California’s loss isn’t another state’s gain. As Figure 8 shows, few states will be exempt from the types of regulatory pressures California faces today. We may just be the canary in coal mine, and when dairies run out of places to go, we may drive another industry completely out of the country. I, for one, do not think that needs to happen and hope that leaders like you will give careful consideration to the issues and potential solutions that we have presented today.

Again, thank you Mr. Chairman and members of the subcommittee for your kind attention and the opportunity to provide testimony to you on this important matter.

Attachment A – April 2, 2015 Presentation to Transboundary Ozone Pollution Conference: “Technology and Policy Options, the Search for Effective Solutions,” Seyed Sadredin, Executive Director, APCO for San Joaquin Valley Air Pollution Control District

Technology and Policy Options

The Search for Effective Solutions

**Transboundary Ozone Pollution
Conference**

April 2, 2015

Seyed Sadredin

Executive Director/APCO

San Joaquin Valley Air Pollution Control District



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What if a region did all of these?

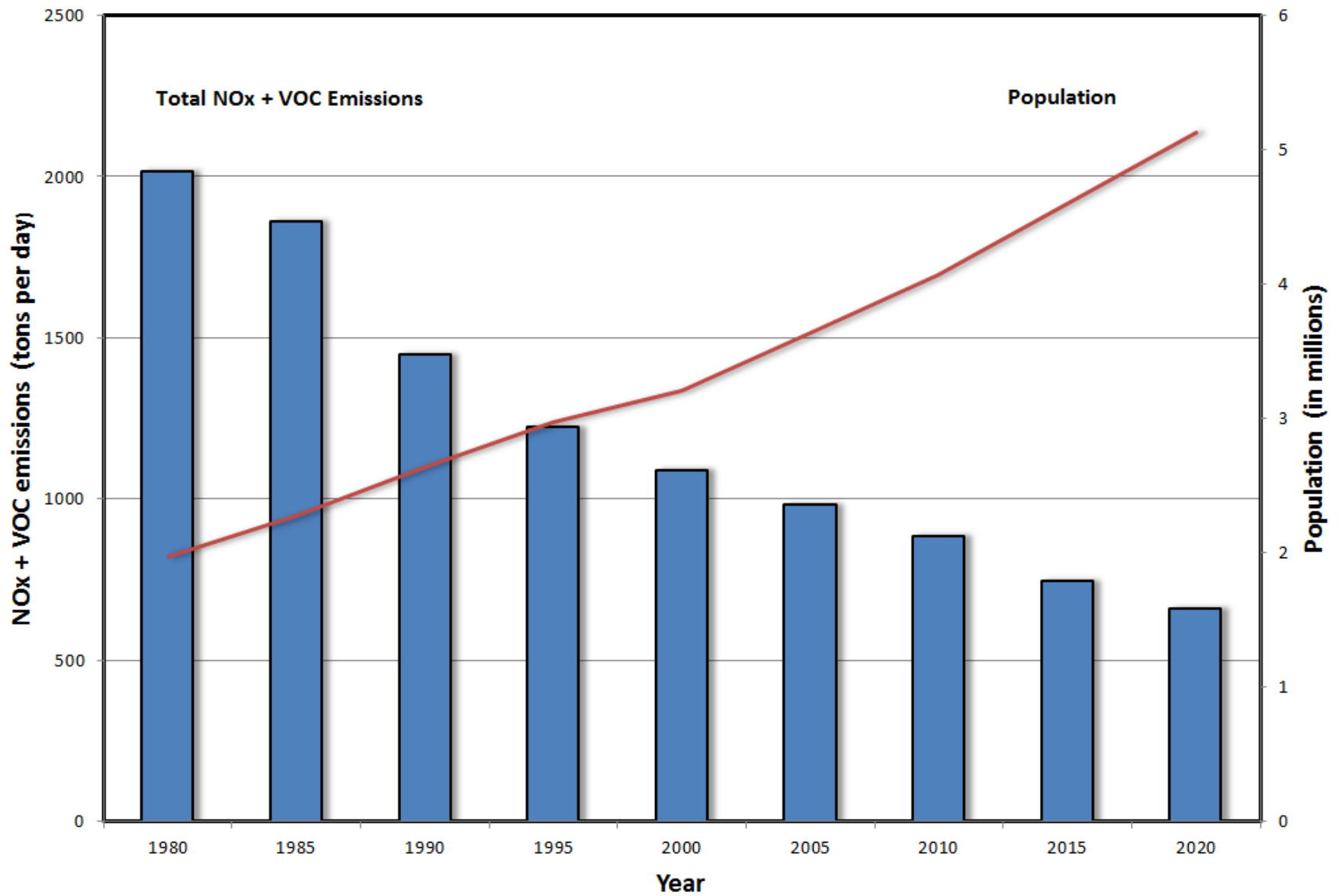
- ✓ Toughest air regulations on stationary sources (600 rules since 1992)
- ✓ Toughest air regulations on farms and dairies
- ✓ \$40 billion spent by businesses on clean air
- ✓ Over \$1 billion dollars of public/private investment on incentive-based reductions
- ✓ Toughest regulations on cars and trucks
- ✓ Toughest regulations on consumer products
- ✓ Reduced emissions by 80% - *but need another 90% reduction in emissions just to meet a standard that will soon be replaced with an even tougher standard*



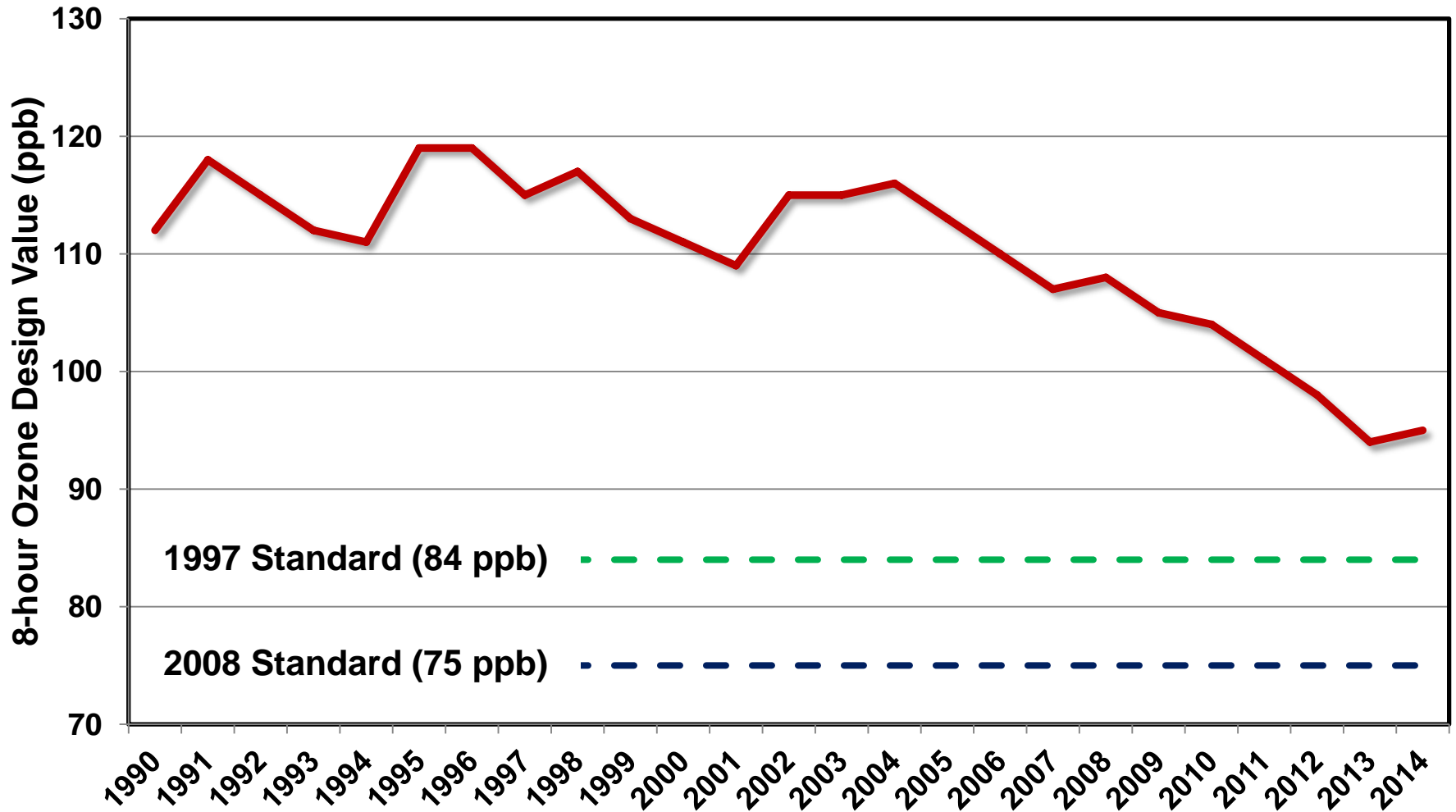
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SJV Population Increases and Emissions Decreases



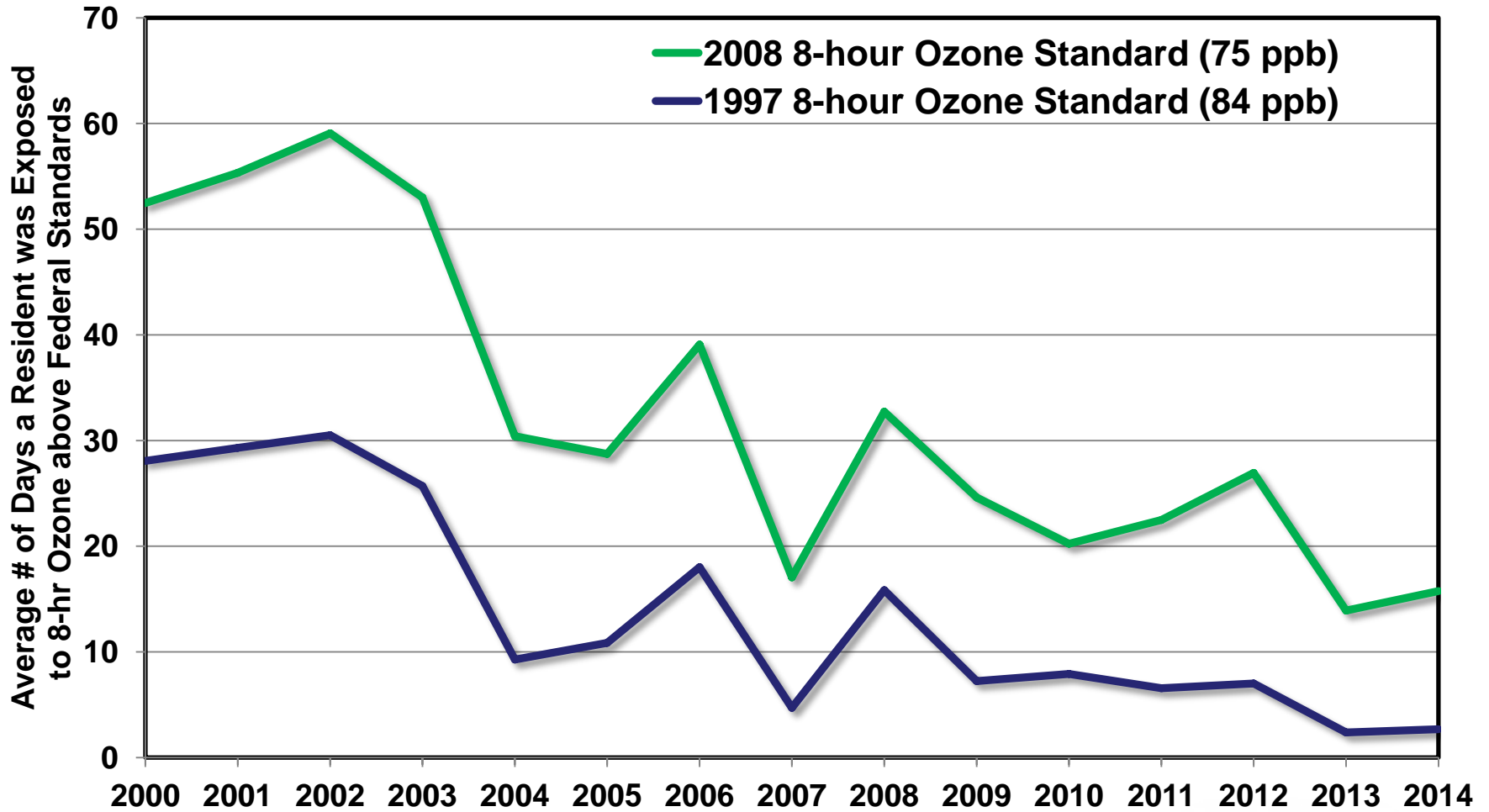
Valley 8-hour Ozone Design Value Trend



Days over 84 ppb 8-hour Ozone Standard by County (2003 and 2014)

County	2003	2014
San Joaquin	2	0
Stanislaus	18	4
Merced	54	1
Madera	14	5
Fresno	97	22
Kings	15	4
Tulare	92	13
Kern	116	14
TOTAL	408	63

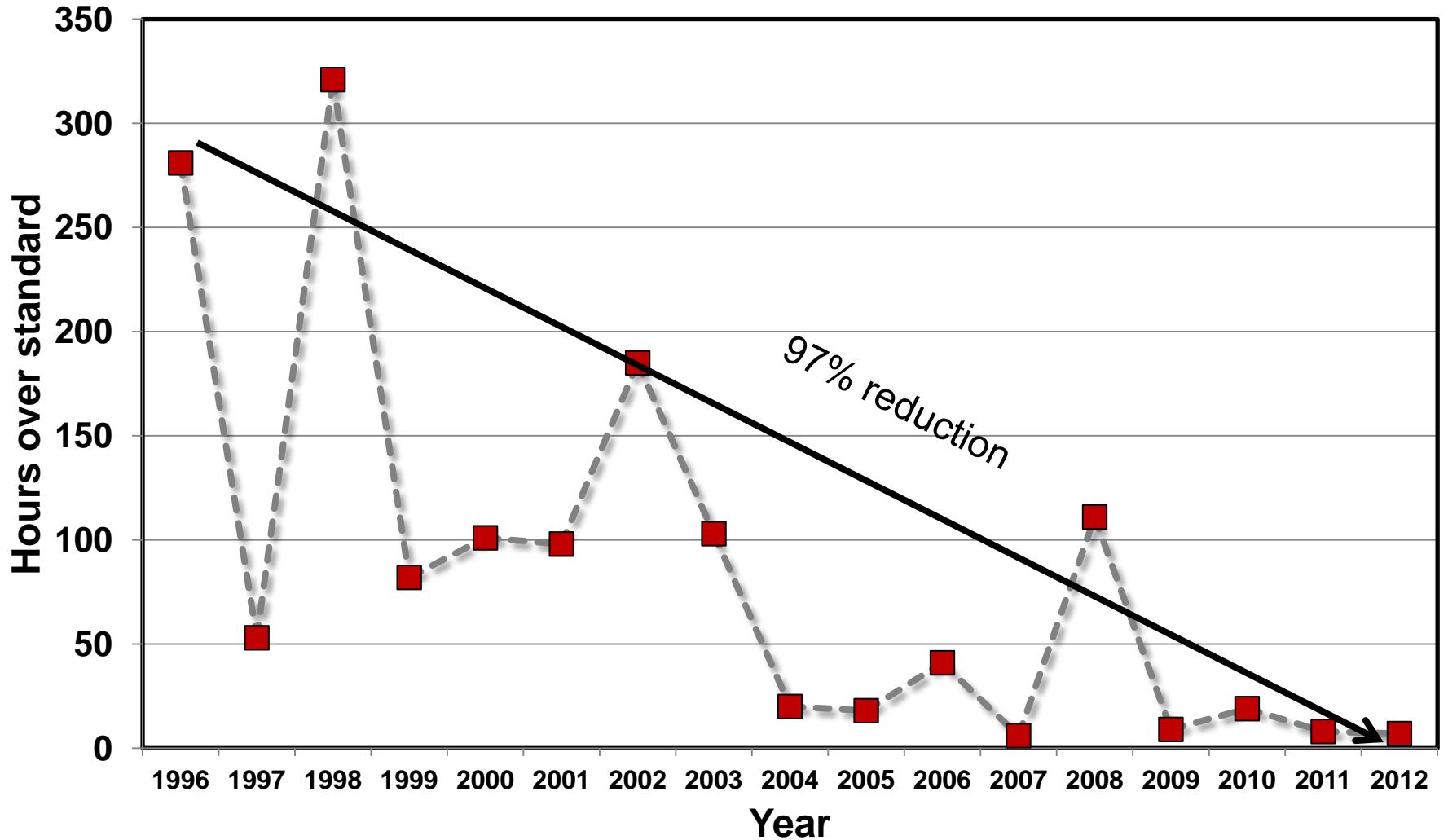
Significant Reduction in Population Exposure



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Total Hours over the 1-hour Ozone Standard among all Sites per Year



New Ozone NAAQS

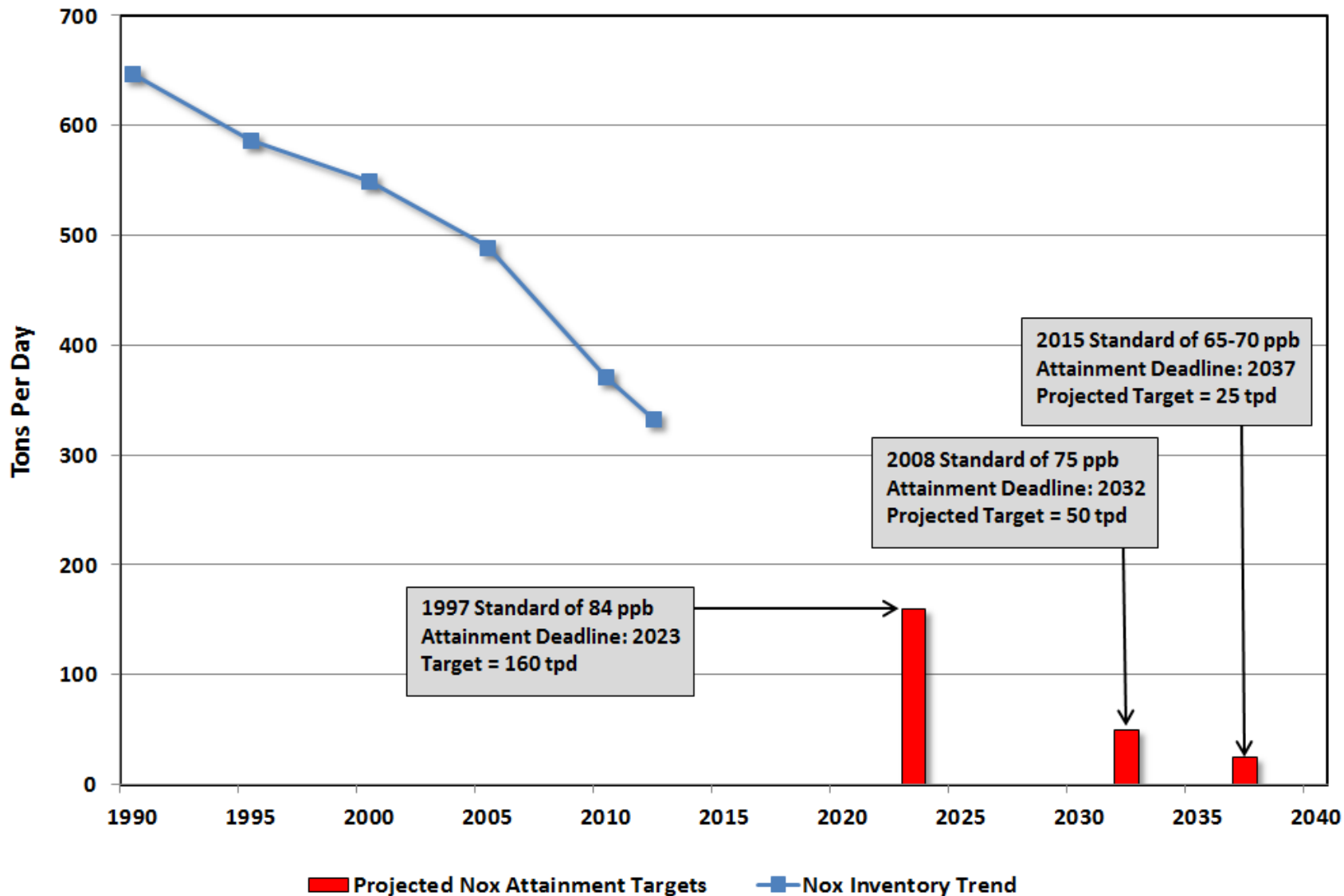
- New federal standards approach ~~background~~ baseline pollution concentrations
- Technology does not exist to get all the emission reductions needed
- Meeting the standards require ban on fossil fuel combustion or emissions
- Meeting the standards require transformative changes
 - Cost prohibitive?
 - Require more time than allowed under the Clean Air Act



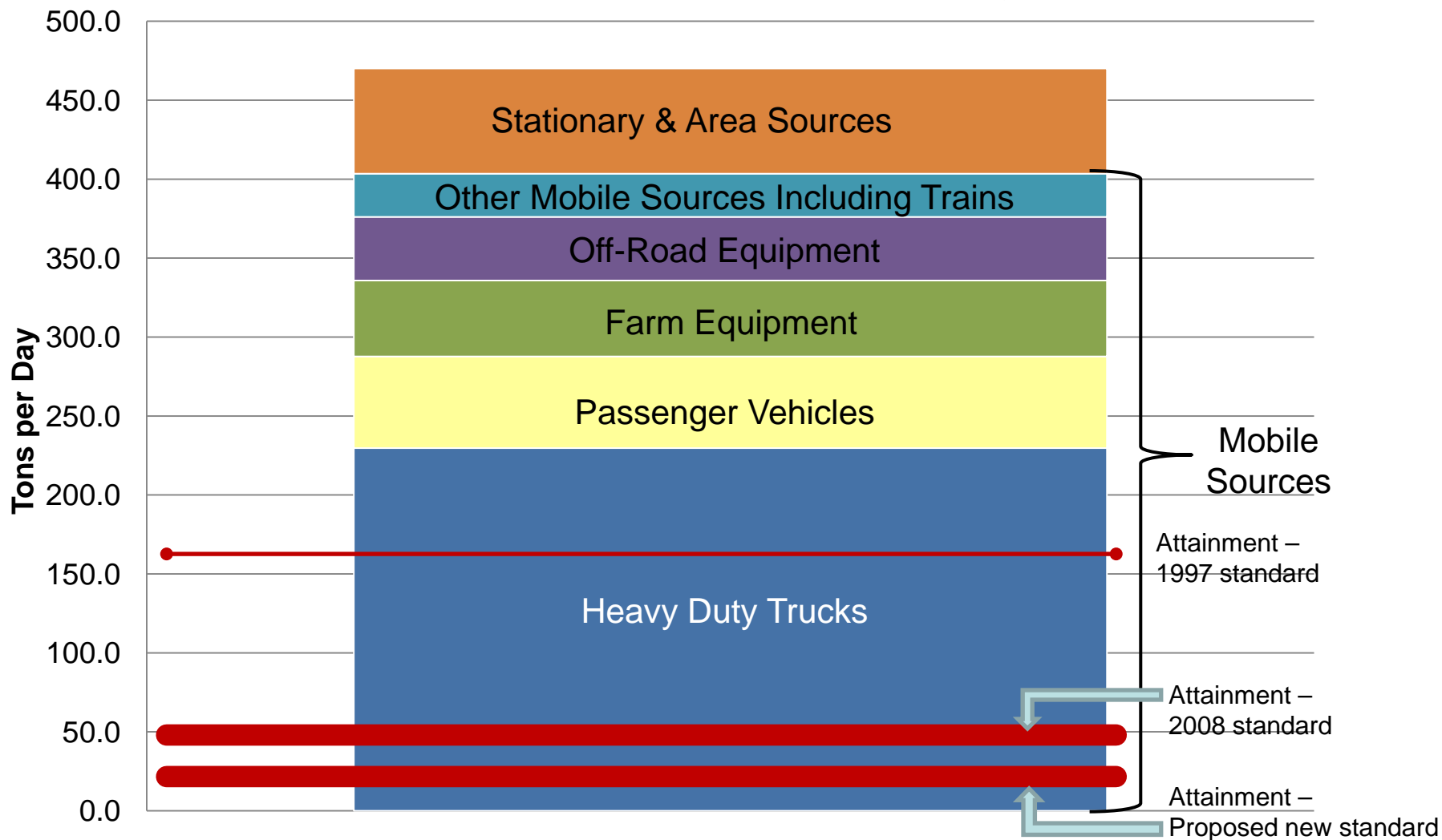
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San Joaquin Valley Annual Average NOx Emissions Inventory and Targets for Attainment of 8-hour Ozone Standards



Meeting New Federal Ozone Standards San Joaquin Valley



Why SJV is Involved

- We **MUST** and **WILL** do everything feasible to control local sources regardless of background (including Asia transport)
- Majority of our ozone is from local sources but background concentrations are policy relevant
 - EPA estimate (35 ppb) - Models and field observations (50+ ppb)
- Policy relevance
 - Is attainment possible given the background?
 - How much does it cost to reduce 1ppb of ozone transported from Asia?
 - Is it fair for Valley residents & businesses to pay for Asian pollution?
- Need to invest in scientific research to develop tools to better estimate all contributors to background concentrations including transboundary ozone
- More work needed on exceptional event policy and 179B application to TAO impact (stratospheric intrusion?)



My Initial Conference Takeaways

- \$ Need to do more work to reconcile difference between global models and monitored data
- Dr. Parrish presents some inconvenient truths
 - Identifies gaps in the state of science and public policy that need to be further explored
 - His Eulerian qualitative analysis can easily be cherry picked and misrepresented by transport deniers to attack his credibility
- Best defense offered for use of global models
 - Models may have canceling errors but have no bias
 - No sound evidence of lack of bias
 - In 34 years, I have not seen a model that comes close
- Use the right model - the right way - to get the right answer
 - Once you get the answer you like – STOP!
- \$ Need to use better inventory



More Conference Takeaways

- Global models fall short once they hit the boundary layer
 - Cannot handle regional boundary layer entrainment dynamics
 - \$ Need higher resolution to better quantify regional impacts
 - \$ Ground based LIDAR, combined with air flights and satellite data will help this as well as efforts to reconcile observed monitoring and modeling results
 - \$ Based on extensive field research, Dr. Faloona is on the cutting edge when it comes to understanding boundary layer dynamics especially in the complex terrain of the Valley
 - \$ More in-situ measurements with more robust tracers
- Need to enhance global models to provide better boundary conditions for regional models
 - \$ Need to capture daily peaks, not monthly or seasonal mean values



**Attachment B – 2015 Federal Clean Air Act Modernization Proposal, from the
San Joaquin Valley Air Pollution Control District**

2015 Federal Clean Air Act Modernization Proposal

Since its adoption, the Clean Air Act has led to significant improvements in air quality and public health benefits throughout the nation. In many areas of the nation, air pollution levels have been reduced to historical lows. We support the well-intentioned concepts in the Clean Air Act that call for routine review of health-based air quality standards, clean air objectives that are technology-forcing, and clean-air deadlines that ensure expeditious clean-up and timely action.

The Clean Air Act was last amended in 1990. Over the last 25 years, local, state, and federal agencies and affected stakeholders have learned important lessons from implementing the law and it is clear now that a number of well-intentioned provisions in the Act are leading to unintended consequences. This experience can inform efforts to enhance the Clean Air Act with much needed modernization. The following proposal is designed to provide specific language aimed at improving the Act's effectiveness and efficiency.

1. PROBLEM: Since the 1970's, EPA has established numerous ambient air quality standards for individual pollutants. We have now reached a point where various regions throughout the nation are subject to multiple iterations of standards for a single pollutant. For instance, there are currently 4 pending standards for ozone and 4 pending standards for PM2.5. Each of these standards requires a separate attainment plan which leads to multiple overlapping requirements and deadlines. This in turn results in a great deal of confusion, costly bureaucracy, and duplicative regulations, all without corresponding public health benefits.

SOLUTION: When a new standard is published, the old standard for that pollutant should be subsumed. States should be allowed to develop a single attainment plan that harmonizes increments of progress and other milestones without allowing for any rollback or backsliding.

PROPOSED AMENDMENTS: To avoid duplicative requirements and confusion, the RFP milestones must be synchronized when a new standard is published, for any region with a pending implementation plan for an older version of the standard for that pollutant. Towards that end, the first RFP milestone for the new standard should be aligned with the next required milestone for the old standard. The reductions required for aligned milestones shall be either 3 percent of the baseline for the new standard or the RFP emission reduction targets established under the existing plan, whichever is greater.

For ozone, add new subsection 182(k) as follows:

(k) RFP Milestone Alignment for Areas with Pending Attainment Plans

Notwithstanding any other provisions of this section, the RFP milestones and emission reduction targets in areas that have submitted a plan to the Administrator for the older version of a standard for the same pollutant being addressed by a new standard shall be set as follows:

The first RFP milestone for the new standard shall be set at the next RFP milestone date for the existing standard addressed in the current plan. Subsequent milestones will be every three years from the first milestone until attainment. The reductions required at the aligned milestones that address more than one standard shall be either 3 percent of the baseline for the new standard or the RFP emission reduction targets established under the current plan for the older standard, whichever is greater.

For particulates, add new subsection 189(c)(4) as follows:

(4) RFP Milestone Alignment for Areas with Pending Attainment Plans

Notwithstanding any other provisions of this section, the RFP milestones and emission reduction targets in areas that have submitted a plan to the Administrator for the older version of a standard for the same pollutant being addressed by a new standard shall be set as follows:

The first RFP milestone for the new standard shall be set at the next RFP milestone date for the existing standard addressed in the current plan. Subsequent milestones will be every three years from the first milestone until attainment. The reductions required at the aligned milestones that address more than one standard shall be either those required for the new standard or the RFP emission reduction targets established under the current plan for the older standard, whichever is greater.

2. PROBLEM: Mobile and stationary sources throughout the nation have now been subject to multiple generations of technology forcing regulations that have achieved significant air quality benefits. Meeting the new standards that approach background concentrations call for transformative measures that require time to develop and implement. These transformative measures require new technologies that in many cases are not yet commercially available or even conceived. The formula-based deadlines and milestones that were prescribed in the Act 25 years ago now lead to mandates that are impossible to meet.

SOLUTION: In establishing deadlines and milestones, the Act should be amended to require control measures that lead to the most expeditious attainment of health based standards while taking into account technological and economic feasibility. These deadlines and milestones should also consider background pollution concentrations and

the region's geography, topography, and meteorology that affect pollutant formation and dispersion.

PROPOSED AMENDMENTS:

In relation to RFP targets for ozone, amend subsection 182(b)(1)(A)(ii)(III) as follows:

the plan reflecting a lesser percentage than 15 percent includes all measures that can feasibly be implemented in the area, in light of technological achievability and economic feasibility.

In relation to RFP targets for ozone, amend subsection 182(c)(2)(B)(ii) as follows:

an amount less than 3 percent of such baseline emissions each year, if the State demonstrates to the satisfaction of the Administrator that the plan reflecting such lesser amount includes all measures that can feasibly be implemented in the area, in light of technological achievability and economic feasibility.

In relation to RFP targets for ozone, amend subsection 182(e) as follows:

Each State in which all or part of an Extreme Area is located shall, with respect to the Extreme Area, make the submissions described under subsection (d) of this section (relating to Severe Areas), and shall also submit the revisions to the applicable implementation plan (including the plan items) described under this subsection. ~~The provisions of clause (ii) of subsection (c)(2)(B) of this section (relating to reductions of less than 3 percent),~~ ~~the provisions of paragraphs [6] (6), (7) and (8) of subsection (c) of this section (relating to de minimus [7] rule and modification of sources), and the provisions of clause (ii) of subsection (b)(1)(A) of this section (relating to reductions of less than 15 percent)~~ shall not apply in the case of an Extreme Area. For any Extreme Area, the terms "major source" and "major stationary source" includes [8] (in addition to the sources described in section 7602 of this title) any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 10 tons per year of volatile organic compounds.

In relation to RFP targets for particulates, amend subsection 189(c)(1) as follows:

Plan revisions demonstrating attainment submitted to the Administrator for approval under this subpart shall contain quantitative milestones which are to be achieved every 3 years until the area is redesignated attainment and which demonstrate reasonable further progress, as defined in section 7501(1) of this title, and which take into account technological achievability and economic feasibility, toward attainment by the applicable date.

In relation to the attainment deadlines for ozone:

Amend section 181(a) by adding the following new subsection 181(a)(6):

Notwithstanding table 1, if an area is already classified as extreme for an existing standard, then the area shall be classified as extreme at the time of designation for the new standard.

Amend section 181(a) by amending table 1 as follows:

TABLE 1

Area class	Design value*	Primary standard attainment date**
Marginal	0.121 up to 0.138	3 years after November 15, 1990
Moderate	0.138 up to 0.160	6 years after November 15, 1990
Serious	0.160 up to 0.180	9 years after November 15, 1990
Severe	0.180 up to 0.280	15 years after November 15, 1990
Extreme	0.280 and above	20 years after November 15, 1990 <u>As prescribed in section 181(a)(7)</u>

Amend section 181(a) by adding the following new subsection 181(a)(7):

Areas shall attain the standard as expeditiously as possible with the most effective measures that take into account technological achievability and economic feasibility. The area shall quantify reductions needed to achieve attainment consistent with section 182(e)(5). Every 5 years after the plan is approved by the Administrator, the area shall demonstrate that all measures that are technologically achievable and economically feasible are implemented or will be included in the plan to ensure expeditious implementation. The plan shall also include measures for advancing the development and deployment of new technologies.

Amend section 182(e)(5) as follows:

(5) New technologies

The Administrator may, in accordance with section 7410 of this title, approve provisions of an implementation plan for an Extreme Area which anticipate development of new control techniques or improvement of existing control technologies, and an attainment demonstration based on such provisions, ~~if the State demonstrates to the satisfaction of the Administrator that~~

~~(A) such provisions are not necessary to achieve the incremental emission reductions required during the first 10 years after November 15, 1990; and~~

~~(B)the State has submitted enforceable commitments to develop and adopt contingency measures to be implemented as set forth herein if the anticipated technologies do not achieve planned reductions.~~

~~Such contingency measures shall be submitted to the Administrator no later than 3 years before proposed implementation of the plan provisions and approved or disapproved by the Administrator in accordance with section 7410 of this title. The contingency measures shall be adequate to produce emission reductions sufficient, in conjunction with other approved plan provisions, to achieve the periodic emission reductions required by subsection (b)(1) or (c)(2) of this section and attainment by the applicable dates. If the Administrator determines that an Extreme Area has failed to achieve an emission reduction requirement set forth in subsection (b)(1) or (c)(2) of this section, and that such failure is due in whole or part to an inability to fully implement provisions approved pursuant to this subsection, the Administrator shall require the State to implement the contingency measures to the extent necessary to assure compliance with subsections (b)(1) and (c)(2) of this section.~~

~~Any reference to the term "attainment date" in subsection (b), (c), or (d) of this section which is incorporated by reference into this subsection, shall refer to the attainment date for Extreme Areas.~~

3. PROBLEM: The Act as it relates to the demonstration of Reasonable Further Progress or Rate of Progress treats all precursors the same, regardless of their potency in harming public health or achieving attainment. Driven by a rapidly expanding body of scientific research, there is now a growing recognition within the scientific community that from an exposure perspective, the National Ambient Air Quality Standards metrics for progress are a necessary but increasingly insufficient measure of total public health risk associated with air pollutants. In particular, control strategies for sources of PM2.5 and ozone do not necessarily account for qualitative differences in the nature of their emissions. For PM2.5, toxicity has been shown to vary depending on particle size, chemical species, and surface area. In the case of ozone, differences in the relative potency of ozone precursors, VOCs in particular, is not captured by a strict, mass-based approach to precursor controls.

SOLUTION: The Act should be amended to allow states to focus efforts on meeting new standards in the most expeditious fashion through deployment of scarce resources in a manner that provides the utmost benefit to public health. Towards that end, we recommend a more strategic approach in which public health serves as the key factor in prioritizing control measures, regulated pollutants, and sources of emissions. In establishing Reasonable Further Progress or Rate of Progress, the Act should give a greater weight to pollutants that have greater impact on achieving attainment and improving public health. Additionally, in evaluating Reasonably Available Control Technology (RACT), measures that reduce precursors with more impact on ozone formation should be given higher scores than measures that may reduce greater amounts of less potent ozone precursors.

For example, VOC compounds vary significantly in their contribution to the formation of ozone in the San Joaquin Valley. Similarly, NOx emissions reductions have been demonstrated to be approximately 20 times more effective than VOC emissions reductions in reducing the formation of ozone in the San Joaquin Valley. We therefore recommend that in demonstrating Reasonable Further Progress, EPA allow for an alternative approach that can demonstrate equivalent reductions in ozone concentrations as compared to the straight requirement of 3% per year reduction of VOCs and/or NOx.

PROPOSED AMENDMENTS:

Amend Section 182:

(C) NOx control

The revision may contain, in lieu of the demonstration required under subparagraph (B), a demonstration to the satisfaction of the Administrator that the applicable implementation plan, as revised, provides for reductions of emissions of VOC's and oxides of nitrogen (calculated according to the creditability provisions of subsection (b)(1)(C) and (D) of this section), that would result in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions required under subparagraph (B). Within 1 year after November 15, 1990, the Administrator shall issue guidance concerning the conditions under which NOx control may be substituted for VOC control or may be combined with VOC control in order to maximize the reduction in ozone air pollution. In accord with such guidance, a lesser percentage of VOCs may be accepted as an adequate demonstration for purposes of this subsection. The Administrator shall allow the use of NOx reductions in lieu of VOC reductions. The credit for NOx reductions shall be weighted in proportion to their effectiveness in reducing ozone concentrations in relation to the effectiveness of VOC reductions as demonstrated by the attainment modeling submitted with the plan.

4. PROBLEM: Requiring contingency measures in extreme nonattainment areas is irrational and unnecessary. The Act requires all attainment plans to include contingency measures, defined as extra control measures that go into effect without further regulatory action, if planned emissions controls fail to reach the goals or targets specified in the attainment plan. While requiring backup measures was a well-intentioned provision, it does not make sense in areas that have been classified as "extreme" non-attainment for ozone. These areas, by definition, have already implemented all available and foreseeable measures and still need a "black box" of future measures to define and employ. The term "black box" refers to reductions that are needed to attain the standard, but technology to achieve such reductions does not yet exist. No measures are held in reserve in areas that are classified as "extreme" non-attainment for ozone. With no stones left unturned in such plans, requiring contingency measures in such areas makes no sense.

SOLUTION: We recommend that the Act be amended to eliminate the requirement for contingency measures in areas classified as “extreme” non-attainment by EPA.

PROPOSED AMENDMENTS:

Add to 172(c)(9) as follows:

(9) Contingency measures

Such plan shall provide for the implementation of specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date applicable under this part. Such measures shall be included in the plan revision as contingency measures to take effect in any such case without further action by the State or the Administrator.

Notwithstanding this or other sections, contingency measures shall not be required for extreme ozone nonattainment areas.

5. PROBLEM: The Act requirements for severe and extreme ozone nonattainment areas to address vehicle-related emissions growth must be clarified. Section 182(d)(1)(A) requires such areas to develop enforceable transportation control measures (TCMs) and transportation strategies “to offset any growth in emissions from growth in vehicle miles traveled ... and to attain reduction in motor vehicle emissions as necessary.” An area’s vehicle miles traveled (VMT) may increase due to increases in population (i.e., more drivers), people driving further (i.e., sprawl), or increases in pass-through traffic (i.e., goods movement).

Historically, EPA’s section 182(d)(1)(A) approach has allowed the use of vehicle turnover, tailpipe control standards, and the use of alternative fuels to offset the expected increase in VMT. This has allowed for the actual emissions reductions occurring from motor vehicles to be considered in meeting the applicable requirements. A recent Ninth Circuit Court decision, however, has called EPA’s current approach for demonstrating the offsetting of vehicle mile-related emissions growth into question, and has forced EPA to reevaluate its approach. Any change in approach that would require regions to offset vehicle growth regardless of population growth, and without recognition of emission reduction measures such as vehicle turnover and tailpipe control standards, would have a significant impact on many regions’ ability to develop an approvable attainment strategy and, under a strict interpretation, would actually render attainment impossible. Many TCMs and transportation strategies have already been implemented in nonattainment areas, and remaining opportunities are scarce and extremely expensive to implement, with relatively small amounts of emissions reductions available. A less inclusive section 182(d)(1)(A) approach would effectively penalize nonattainment areas for having population growth, and would not give credit to the significant emissions reductions being achieved from motor vehicles.

To illustrate this issue, such an interpretation applied to the District’s 1997 8-hour ozone standard attainment plan would require the elimination of 5.1 million vehicles, while the vehicle population of the Valley is projected to be only 2.6 million vehicles in 2023.

EPA recently established new guidance to address this issue that provides a potential path for reasonably addressing this CAA requirement. However, the path provided under this guidance will undoubtedly be challenged in court as it is utilized by regions like the San Joaquin Valley in the coming years. To provide certainty moving forward, the CAA should be amended to clearly include the methodology for reasonably satisfying this requirement.

SOLUTION: The Act should be amended to allow states to take credit for all transportation control measures and strategies and not punish areas that have implemented transportation control measures and strategies that have achieved early reductions in emissions.

PROPOSED AMENDMENTS:

(1) Vehicle miles traveled

(A) Within 2 years after November 15, 1990, the State shall submit a revision that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or numbers of vehicle trips in such area and to attain reduction in motor vehicle emissions as necessary, in combination with other emission reduction requirements of this subpart, to comply with the requirements of subsection [5] (b)(2)(B) and (c)(2)(B) of this section (pertaining to periodic emissions reduction requirements). The State shall consider measures specified in section 7408(f) of this title, and choose from among and implement such measures as necessary to demonstrate attainment with the national ambient air quality standards; in considering such measures, the State should ensure adequate access to downtown, other commercial, and residential areas and should avoid measures that increase or relocate emissions and congestion rather than reduce them. As new ozone standards are established, for areas that have implemented early transportation control strategies and transportation control measures, the baseline for demonstrating compliance under this subsection shall remain fixed at 1990 independent of the baseline date for the new plan.

Attachment C – Documentation of efforts by states to recruit California dairies

Recruitment efforts by other states

California's historic drought, regulatory environment and local land use policies is fostering a campaign by more than 5 states citing water and land availability with the hopes of courting California dairy families east.



Dairy IOWA

EXPLORE DAIRYING IN THE DAKOTAS

WHY IOWA?

- ▶ Abundant land, water, feed and forage supply
- ▶ Positive business climate
- ▶ Capital resource availability
- ▶ Competitive milk prices
- ▶ Diversified processing base with unfilled capacity

iowadairy.org

With affordable land, dairy-friendly communities, ideal environment for cow comfort, access to milk markets and available water and feedstuffs, North and South Dakota make ideal locations for your operation.

Iowa supports the three essentials required for successful livestock production – **Water, Feed and Manure Management.**

Water

Traditionally high yields are accredited to Iowa's statewide availability of water, established wetlands, buffer strips and other efforts intended to manage water quality.



Manure Management

Deep soils and high yields are a perfect solution for recovering value from manure. Technologies for better spreading and more efficient handling are applied everywhere in Iowa.

Streamlined Permit Process with Ready-to-Go Dairy Sites

The Ag Team at Iowa Area Development Group is already working for you. We have dairy sites ready for your review. Local issues, water, hard surfaced roads, manure handling and other location factors have all been evaluated. The streamlined permitting process is handled through the State of Iowa and is typically completed within 90 days.



Feed

Iowa's fertile land allows the production of high quality feed grains and quality grass and hay, which adds to profitability and reduces the fluctuating feed prices. Iowa's central location in the Midwest also provides access to high-quality, low-cost rations.



The combination of stable pricing, quality products, access to quality feed, and support services creates a highly competitive scenario for existing and potential dairy operations in the state.

Abundant Milk Processing Capacity

Iowa has a robust and growing dairy industry and currently ranks 8th in total dairy products processed. Meaning there is high demand for locally produced milk.

800.888.4743 + www.IADG.com

Great Dairy Infrastructure

Iowa provides the full continuum of services, suppliers, transportation and processors to support successful operations. Veterinarians, dairy equipment service companies, manure handling companies and many more are readily available.

Great Family Infrastructure

What people find when they make Iowa home is a genuinely great place to live, work, and raise a family. They discover a place where neighbors are friendly, communities are welcoming, and quality public and private education is a reality.

- Iowa is ranked the nation's 2nd-most livable state. *CO Press, 2011*
- Iowa is named the 5th-best state to raise a child. *Annex E, Casey Foundation, 2011*

the right resources

Knox County, NE can provide abundant feed and water, some of the lowest electric rates in the country, and ample rural areas to locate large dairies.

the right market

Six (6) dairy processors within a 125-mile radius and five (5) more within 200 miles that need you!

the right quality of life

Knox County is home to communities with great schools, safe neighborhoods, and affordable housing. It is within 30 to 60 minutes of larger city amenities of Norfolk, NE, Sioux City, IA or Yankton, SD. Knox County borders the magnificent 30-mile Lewis and Clark Lake, part of the Missouri National Recreational River, offering great fishing and boating opportunities and the largest camping destination in the Midwest.



We are designated by the state as a Livestock Friendly County. The Livestock Industry is crucial to our future. Knox County is excited about

the opportunity to show our county, communities and available land.

We believe Knox County is a great destination for your operation.

Let us show you. Contact us today.

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WIDE OPEN SPACES AND BLUE SKIES

With abundant feed supplies, competitive land prices, ideal climate and supportive rural communities, Kansas is quickly establishing itself as a premier dairy location.

Kansas ranks third in the U.S. for the amount of land in farms with more than 46 million acres dedicated to agriculture. Ranking second in the nation for total cropland, Kansas is one of the largest Midwest feed sheds with abundant corn, alfalfa and soybeans. Commodities are easy to access with local feed cooperatives available in nearly every county.

Western Kansas' dry, arid climate and moderate temperature make it the ideal place to relocate or expand a dairy operation. Average precipitation for ideal dairy locations ranges from approximately 15 to 30 inches per year, with irrigation water available to assist in raising crops. The dry climate lends itself well to dry-lot or free stall operations.

Located directly above the Ogallala Aquifer, the world's largest underground water supply, Kansas has existing water rights available and is implementing proactive water conservation practices allowing farmers and ranchers to manage their own water while still preserving the aquifer for generations to come.

Rural communities are the driving force behind the success of agriculture in Kansas and Kansas' high quality of life. Low population density and close-knit agriculture-based communities in Kansas make it the perfect location for dairy operations and families alike.

Dairy's Premier Frontier



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