The Clean Air and Climate Change Act of 2016
I Re-Wrote the Clean Air Act

• CAA or its predecessor already been revised 4x
• Just the longest stretch without an update (26 years)
• Powerful people kept telling me it was impossible to re-write the Clean Air Act . . . so I re-wrote it myself (in shorts and a t-shirt in Kingwood, Texas without a budget)

❖“It always seems impossible until its done.”  
---Nelson Mandela
A Better Clean Air Act . . . Possible

• “We would accomplish many more things if we did not think of them as impossible.” —Vince Lombardi

• “Only those who attempt the absurd can achieve the impossible.” —Albert Einstein

• “It’s kind of fun to do the impossible.” —Walt Disney
Historical First-Ever Re-write of the U.S. Clean Air Act

Summary

1) Creates a comprehensive multi-pollutant approach to addressing air quality and climate change concerns;

2) Realigns responsibility and authority under the Act to increase the efficiency and effectiveness of International, Federal, State, and Local control efforts; and

3) Modernizes and simplifies the Act to make it more transparent and easier to implement and enforce.

Click “here” for draft text of “Clean Air and Climate Change Act of 2016”
Current Act says States and Locals primarily responsible for air pollution improvement.

New Act says States, Locals, Federal, and International jointly responsible for air pollution improvement.
Example Pages from “The Clean Air and Climate Change Act of 2016”

§ 7405A. National Multi-pollutant Market-based System (NMMS):

(a) Purpose

The primary means for pursuing domestic air quality improvements shall be the newly established National Multi-pollutant Market-based System (NMMS). The NMMS is a multi-pollutant program that includes traditional HAAQS pollutants, greenhouse gases, visibility pollutants, toxics, and any other pollutants which may reasonably be anticipated to endanger public health or welfare. The NMMS shall establish continual comprehensive reductions in emissions.

(b) Emissions Reduction Schedule

(1) The NMMS sets an initial Emissions Reduction Schedule for reductions which is intended to lower national emissions below current levels. [An attachment will be created that shows the emissions reduction schedule for each pollutant for each emissions sector]

(2) The NMMS requires a review every [n of years] by the EPA and a development of a new Emissions Reduction Schedule which further lowers national emissions. The Emissions Reduction Schedule is then submitted to Congress for approval. If Congress does not approve the Emissions Reduction Schedule as submitted within 12 months of the required NMMS review time, or approve an alternative within that 12 months, the Emissions Reduction Schedule submitted by EPA will become automatically effective.

(3) Along with the Emissions Reduction Schedule, EPA shall also submit to Congress recommendations on the Multi-pollutant International Emissions Management Plan (MIEMP).

(4) Each emissions sector shall be assigned a certain percentage of the Emissions Reduction Schedule that each sector must meet:

a. For larger stationary sources, such sources are directly subject to the NMMS and are required to demonstrate compliance via real-time facility-wide direct source monitoring.

b. The NMMS for mobile sources is implemented under Title II of the Act.

c. The NMMS for smaller stationary sources is implemented via the National Performance Standards.

(5) States shall be responsible for enforcing the NMMS. States shall also be responsible for addressing any hotspot and immediate fence-line concerns.

(6) EPA shall actively involve States in preparing the NMMS and establishing the Emissions Reduction Schedule.

*Full text available at www.cleanairreform.org

Insertion of the NMMS which simplifies much of the Clean Air Act

Approximately 50-75% of the current Act would no longer be needed
“Red-lines” much of the old Act which will no longer be necessary

“Out of intense complexities, intense simplicities emerge.”

----Winston Churchill

§ 7440. State implementation plans for national primary and secondary ambient air quality standards

(a) Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems

(I) Each State shall, after reasonable notice and public hearing, adopt and submit to the Administrator, within 2 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 7409 of this title for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(II) Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter;

(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to—

(i) monitor, compile, and analyze data on ambient air quality, and

(ii) upon request, make such data available to the Administrator;

(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the area covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D of this subchapter;

(D) contain adequate provisions—

(i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—

(II) contribute significantly to nonattainment in, or interfere with, maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard; or

(II) interfere with measures required to be included in the applicable implementation plan.
“The Clean Air and Climate Change Act of 2016”

PSD Program
Title V Program
NNSR Program
NSPS Program
MACT Program
Regional Haze Program
Acid Rain Program
CAIR/CSAPR Program
SIP requirements

Multi-Pollutant Market-Based System Based on Real-Time Source Monitoring

Approximately 50 to 75% of Clean Air Act regulations would no longer be needed.
Why Simplify and Modernize the U.S. Air Quality Management System?

- System getting huge
- System getting more complex
- Dollars to manage going down
- Work going up
- System relying ultimately on States to achieve attainment—yet the authority and ability of States to achieve attainment is decreasing
- Single pollutant-by-pollutant approach no longer efficient and effective in a world of multi-pollutant concerns
- New emissions measurement technologies are beginning to antiquate the current system that largely had to be built around emissions estimating techniques

Why a need for the “Clean Air and Climate Change Act of 2016”?
Current Direction of the CAA

- **Amount**
- **Time**

Graph showing:
- **Blue line**: Air Pollution, decreasing over time.
- **Red line**: Regulatory Complexity, increasing over time.
The Clean Air and Climate Change Act of 2016
The federal environmental statutes that Congress has addressed to EPA run to more than 2,700 pages in the two large, maroon-colored United States code volumes. The legally binding regulations issued by EPA to implement these statutes fill the 31 ocre-colored volumes of the Code of Federal Regulations. The guidance and other documents issued by EPA to explain or interpret its regulations fill around one million pages and are represented by the 1,250 grey-colored loose-leaf volumes. This does not include the millions of pages of State and local statutes, rules, and guidance that implement the millions of pages of Federal statutes, rules, and guidance.
---“I hate that each sector has 17 to 20 rules that govern each piece of equipment and you've got to be a neuroscientist to figure it out”.

---Gina McCarthy, U.S. EPA Administrator
“We ought to be able to go further, but we can’t because the statute is stupid.”

“[We need] a more robust statutory framework to enable the country to achieve further environmental progress, which at the moment is stalled and needs to be rekindled.”

“The Clean Air Act is not a relic to be displayed in the Smithsonian, but a living document that must be refurbished to continue realizing results... [W]e have a responsibility to overhaul and enhance the Clean Air Act to ensure it translates from paper promises into cleaner air.”

--- William K. Reilly, Administrator, U.S. Environmental Protection Agency, 1989-93

--- Stephen Johnson, Former EPA Administrator
Significant Problem is that the Clean Air Act Assumes that Air Pollution is Still Largely a Local Problem

--- “Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such state by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained . . .” (Clean Air Act, Section 107(a))
More and More Pollution is Outside State/Local Control
“It’s Becoming a Small Multi-Pollutant World After All”

Interstate Pollutant Transport
Ex. CAIR/CSAPR

Federally Controlled Mobile Sources

International Pollutant Transport

Intrastate Pollutant Transport
"Ozone is a global issue."

"The way that we deal with ozone today just no longer makes any sense." — Jeff Holmstead, Bracewell & Giuliani, former EPA Assistant Administrator for Air, Congressional Testimony 10/22/98

"The level the EPA says is safe is getting closer and closer to what's blowing across the ocean."

"To control pollution, Americans need to think globally." — Dan Jaffe, University of Washington

"We believe the world is a different world today compared to 25 years ago when the Congress last amended the Act or 40 years ago when the Congress passed the Act."

If EPA tightens the ozone standard it will have no choice but to view ozone as a global pollution problem. — Daniel Jacob, Harvard University, E&E News, 11/17/14

U.S. Ozone now a Global issue!
Clean Air Act has Provisions for Eastern States to Get Pollutant Transport Reductions, but Western States Are Stuck!

CAA §§ 126; 110
THE CLEAN AIR ACT’S DEFECT DEVICE

TRUE OZONE STANDARD will depend on where you live and what exceptions EPA has appropriately recognized.

- NAAQS
- True Ozone Standard
- Weight of Evidence: 1.8 ppb
- Foreign Pollution: 5.3 ppb
- Exceptional Events: 2.7 ppb
- Total: 70 ppb
- CAAs §179B
- CAAs §319
- 79.8 ppb
Achieving the Ozone NAAQS (ex. Houston)

70 PPB NAAQS

State controlled sources are still significantly controlled by the Federal government via rollout of Federal programs and initiatives (ex. NSPS, MACT, GHG initiatives, CSAPR, NSR)

~12% State Controlled

Federally Preempted Mobile

~30%

Background Pollution

~58%

100%

States Responsible for 100%!
(42 USC §7407)
“SIP”: (n.) A State air plan that generally tells the Federal government what the Federal government is doing so the Federal government can tell the States they have properly told the Federal government what the Federal government is doing.
“The SIP process now mandates extensive amounts of local, state, and federal agency time and resources in a legalistic, and often frustrating, proposal and review process, which focuses primarily on compliance with intermediate process steps. This process probably discourages innovation and experimentation at the state and local levels; overtaxes the limited financial and human resources available to the nation’s AQM system at the state, local, and federal levels; and draws attention and resources away from the more germane issue of ensuring progress toward the goal of meeting the NAAQS.”

CAA Reform: Bondo on the 1990 Chevy Caprice or a Cadillac CT6 Hybrid?

--- “Progress lies not in enhancing what is, but in advancing toward what will be.”

--- Khalil Gibran
A 21\textsuperscript{st} Century Clean Air and Climate Change Act

The Clean Air and Climate Change Act of 2016
How would these people approach the Clean Air Act?

- “The definition of genius is taking the complex and making it simple.” ---Einstein

- “Truth is ever to be found in the simplicity, and not in the multiplicity and confusion of things.” ---Isaac Newton

- “When the solution is simple, God is answering." ---Einstein

- “That's been one of my mantras - focus and simplicity. Simple can be harder than complex: You have to work hard to get your thinking clean to make it simple. But it's worth it in the end because once you get there, you can move mountains.” ---Steve Jobs

- “In building a statue, a sculptor doesn't keep adding clay to his subject. Actually, he keeps chiselling away at the inessentials until the truth of its creation is revealed without obstructions.”---Bruce Lee

- “All the great things are simple.” --- Winston Churchill

- “Nature operates in the shortest way possible.” — Aristotle

- “Nature is pleased with simplicity. And nature is no dummy.” — Isaac Newton

- “Nature does not multiply things unnecessarily; that she makes use of the easiest and simplest means for producing her effects; that she does nothing in vain, and the like”. — Galileo

*The Clean Air Act should mimic the genius of nature to the greatest extent possible.*
“The Clean Air and Climate Change Act of 2016”

- PSD Program
- Title V Program
- NNSR Program
- NSPS Program
- MACT Program
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- Acid Rain Program
- CAIR/CSAPR Program
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Multi-Pollutant Market-Based System Based on Real-Time Source Monitoring

Approximately 50 to 75% of Clean Air Act regulations would no longer be needed.
“The Accord on Global Air Pollution and the Environment” or (“Agape”)

The “Clean Air and Climate Change Act of 2016” calls for development and integration of an International Multi-Pollutant Agreement into the Clean Air Act
National Multi-Pollutant Market-Based System (the “NMMS”)

• Congress sets the initial emission reduction schedule with the NMMS based on the advice of EPA, States, and others (a comprehensive, coordinated, multi-pollutant review which includes NAAQS pollutants, greenhouse gases, visibility pollutants, toxics, and other pollutants).
  – Requires further emission reductions than current levels
  – NAAQS are retained and are strictly science/health-based. The difference is that economics and politics would be more honestly de-linked from where the health-based standards should be set. Congress would then decide on the amount and speed with which to pursue NAAQS reductions based on where the NAAQS are set, by Congress’s goals for reducing other pollutants, by economic considerations, by trade-offs for spending money on further NAAQS reductions rather than on other societal benefits, by energy policy considerations, etc.]
• Requires EPA to periodically review the NMMS and submit a new emission reduction schedule for Congressional approval (if Congress fails to act, the new schedule would become automatically effective on a given date).
• Larger stationary sources are made subject to the NMMS and are required to demonstrate compliance via real-time facility-wide source monitoring (PSD/NNSR, NSPS, MACT, and Title V were therefore no longer needed for these large sources and were removed). The NMMS for mobile sources is generally implemented the same as under the current CAA. The NMMS for smaller stationary sources is implemented via national performance standards (combining MACT and NSPS).
• States are placed in charge of enforcing the NMMS, addressing potential fence-line or hot-spot concerns not addressed by the NMMS, and functioning as innovators, information gatherers, and primary advisors on developing the NMMS and national performance standards. States are provided with not only more rights to develop more stringent controls, but more ability to do so since less resources are needed to be spent on administrative exercises.
Why a Multi-Pollutant Market-Based System?

• Multiple pollutants of concern
  • Ex. ozone, climate change, particulate matter

• Problems interrelated
  • Pollutants forming and interacting in the atmosphere with each other

• Solutions interrelated
  • Certain solutions only address one pollutant—other solutions address multiple pollutants
  • Not all single-pollutant solutions reduce other pollutants (ex. CCS reduces CO2, but not NOx and VOC)
  • Single-pollutant solutions can sometimes increase other pollutants (ex. SCR decreases NOx and SO2, but increases NH3 and CO2).

• Simpler
  • 1 multi-pollutant system simpler than 5 single-pollutant systems
  • Multi-pollutant system could tie into international agreements to reduce pollutants other than CO2 impacting the U.S.

• Environmental and economic synergies to be realized in a multi-pollutant system
Multi-Pollutant Market-Based System
(Ex. Tax-Based System)

Tax
VOC = $2.00/lbs.
NOx = $1.50/lbs.
CO2 = $0.02/lbs.
SO2 = $0.50/lbs.
NH3 = $0.15/lbs.

Ex. Installing SCR on Boiler
- Reduced 5,000 lbs NOx
- Reduced 2,000 lbs SO2
- Increased 100 lbs NH3 (ammonia slip)
- Increased 500 lbs CO2 (requires more energy)

Taxes Avoided: $8,475

Ex. Installing Solar
- Reduced 100 lbs NOx
- Reduced 5 lbs VOC
- Reduced 10 lbs NH3
- Reduced 5,000 lbs CO2

Taxes Avoided: $261.50

Ex. Installing CCS
- Reduced 10,000 lbs CO2

Taxes Avoided: $200.00

*Prices and numbers in slide are for illustrative purposes.*
Technology has advanced since 1970 that would support the NMMS and allow for a more simplified and transparent approach to air quality management

**Satellite Monitoring**

**Fence-line Monitoring**

**DIAL System**

**SOF System**
A company could do whatever it wanted whenever it wanted within its facility so long as the limits established by the monitoring/remote sensing bubble were not exceeded.
Imagine seeing this webpage as an environmental manager, regulatory agency, or a citizen instead of sifting through millions of pages of regulatory materials to determine if you or someone else is in compliance?
“Any intelligent fool can make things bigger, more complex, and more violent. It takes a touch of genius -- and a lot of courage -- to move in the opposite direction.”

------E.F Schumacher
“The best way to get what we want is to help others get what they want.”

--Zig Ziglar
Proposed Horse-Trade on Climate Change and the Clean Air Act

Update the Clean Air Act. Needs to be updated anyway. It’s been 24 years. Already has been revised 4 times. Inevitable it happens again. Might as well be now. Here is the proposed horse trade:

**Democrats:** You get climate change incorporated expressly in a statute and can avoid years of litigation. You also get a more simplified, transparent, and more effective Clean Air Act.

**Republicans:** You get a more coordinated, more predictable, and less expensive regulatory system for all pollutants that essentially removes the permitting process and allows businesses to react quicker to market opportunities.
Can our efforts successfully lead to Clean Air Act improvement?

“For us, there is only the trying. The rest is not our business.”

--- T.S. Eliot
The Clean Air and Climate Change Act of 2016

New Act adds climate change and removes 50-75% of the complexities and redundancies in the current Clean Air Act.