

Air Issues - 2014 VAA Seminar



Proposed National Ambient Air Quality Standard Change for Ozone

- Proposed Rule announced November 26, 2014 (EPA)
- New Standard set at 65-70 ppb (from 75 ppb)
- Standard possibly to be as low as 60 ppb
- Public Comment for 90 days plus public hearings
- Final Standard decision October 1, 2015

Proposed National Ambient Air Quality Standard Change for Ozone

- Based on 2012- 2014 data NOVA would be still be above 70 ppb (meets 75 ppb)
- If it goes to 65 ppb - Tidewater, Richmond and Fredericksburg would be in non-attainment with NOVA
- 60 ppb could bring many areas into non - attainment
- States would have until from 2020 to 2037 to meet standards (depending on current level status)
- U.S. has already cut ozone 33% (1980-2013)

Ozone

Current Standard

75 ppb (3 year average)

2013/2014 Data

- Only 3 days over 75 ppb (Hanover, Charles City & Fairfax – all with only one day) in 2013
- Best numbers ever
- 3 year average – All W/in standards except Fairfax and Arlington (79 ppb)

- 5 days over 75 ppb in 2014 (Charles City, Fairfax and Prince William with one day and two days in Arlington)
- 3 year data not yet available (almost as good as 2013)

PM2.5

Current Standard

- 12 $\mu\text{g}/\text{m}^3$ annual average (primary)
- 15 $\mu\text{g}/\text{m}^3$ annual average (secondary)
- 35 $\mu\text{g}/\text{m}^3$ 24 hour average

2013 Data

- All annual average data below 9 $\mu\text{g}/\text{m}^3$
- All 24 hour data well below 35 $\mu\text{g}/\text{m}^3$
- 3 year average – All well w/in standards

DEQ Petitioned EPA to Lower the Status of PM2.5 in NOVA to “Maintenance Level” from Non-attainment Based on the Improved Data

EPA Recently Accepted the Change

All of the other criteria pollutants
PM₁₀, CO, SO₂, NO₂ & Pb are all
below the ambient air standards

DEQ established air toxics monitoring stations in 2013 mostly in urban areas and is collecting data

EPA released a report last August which demonstrated that there have been dramatic reductions in many volatile organic chemicals since 1990 in urban areas

Benzene levels 66% lower

Mercury 60% lower

Lead 83% lower

New Roadside Monitors

- EPA is Requiring States to Locate Hourly Monitors at High Traffic Urban Locations to Look at CO and NO₂
- Original EPA Requirement was for three locations in NOVA, Richmond & Hampton Roads
- DEQ set up one near I-95 and I-64 intersection in Richmond (Bryan Park area) in 2013 - NOVA soon
- So far data is all well below hourly standards
- DEQ now has a web site for the public to directly access daily monitoring data

Regulation of Greenhouse Gas Status

- EPA and the courts have ruled that greenhouse gases are pollutants and subject to controls
- CO_2 and other greenhouse gases will be added to air permits
- Neither the states or EPA have the resources to proceed with full implementation at this time

Regulation of Greenhouse Gas Status

- Regulators will be mostly dealing with Major Sources
- New asphalt plant permits may have GG included at some point

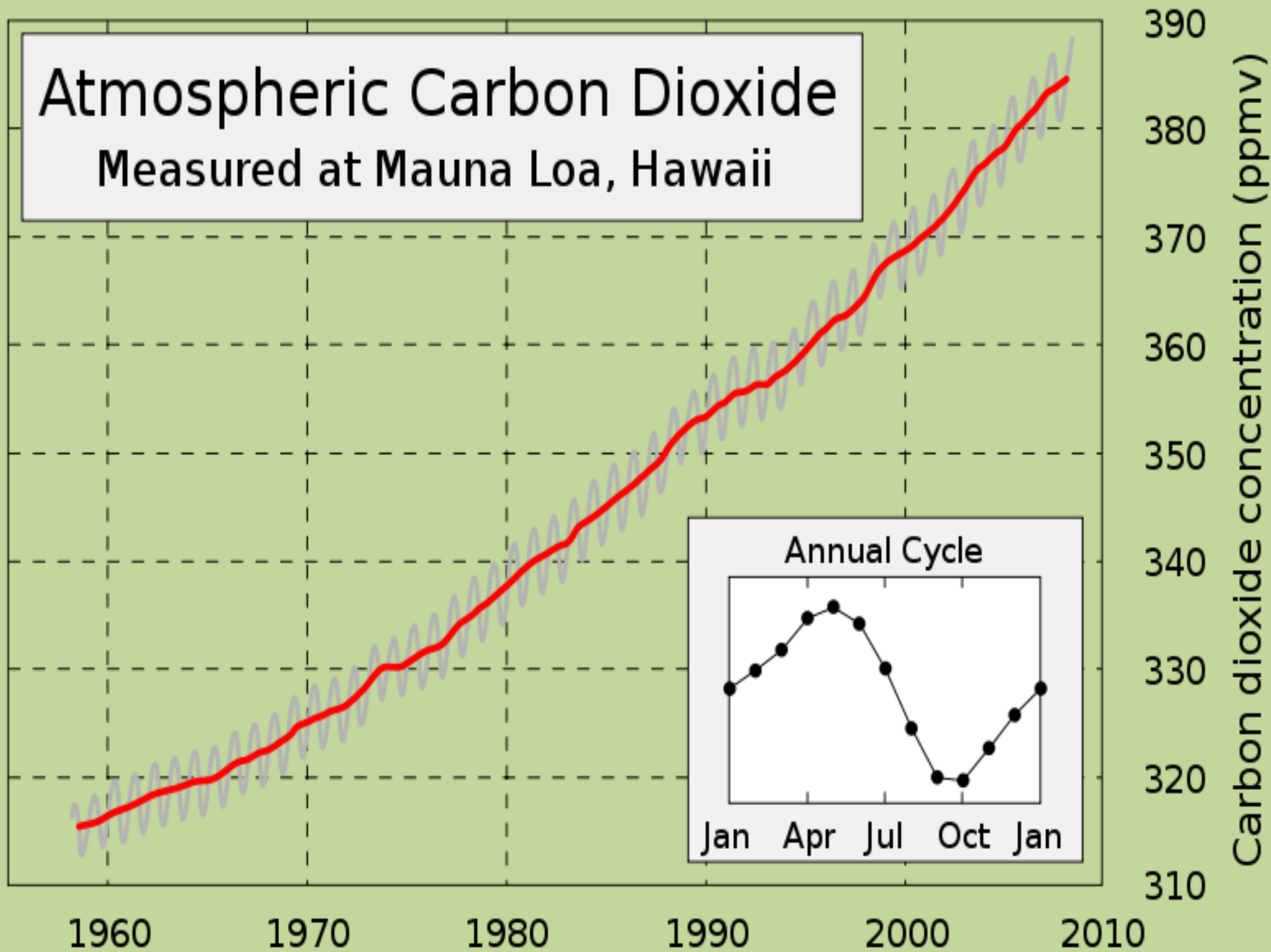
Climate Change Commission

- Governor McCauliff has determined that the Greenhouse gas problem and global warming are “settled science”
- The Governor has reactivated the Climate Change Commission and they are to prepare a report with recommendations due June 1, 2015
- First meeting held September 11, 2014
- Second meeting last week – Appointed a Climate Change Coordinator – Brian Moran

U.S./China Agreement

- U.S. has agreed to cut greenhouse gas emissions by 27% by the year 2025
- China has agreed to cap greenhouse gas emissions by 2030

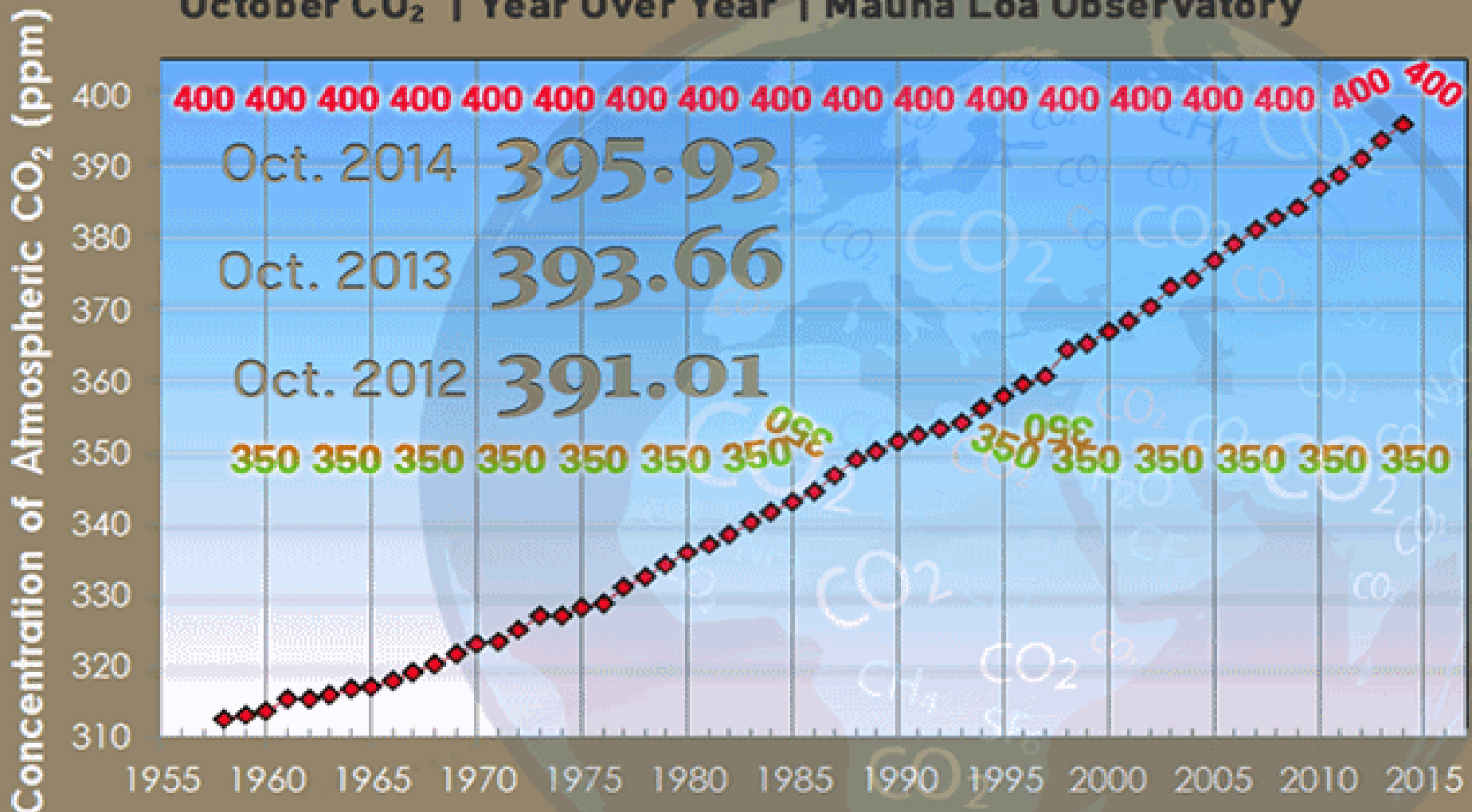
Atmospheric Carbon Dioxide Measured at Mauna Loa, Hawaii



August 1958 - October 2014

Atmospheric CO₂

October CO₂ | Year Over Year | Mauna Loa Observatory



CO₂Now.org

Featuring NOAA-ESRL data of November 5, 2014

Where humanity's **CO₂** comes from

91% 33.4 billion metric tonnes



Fossil Fuels & Cement 2010

9% 3.3 billion metric tonnes



Land Use Change 2010

Where humanity's **CO₂** goes

50% 18.4 billion metric tonnes



Atmosphere 2010

26% 9.5 billion metric tonnes



Land 2010

24% 8.8 billion metric tonnes



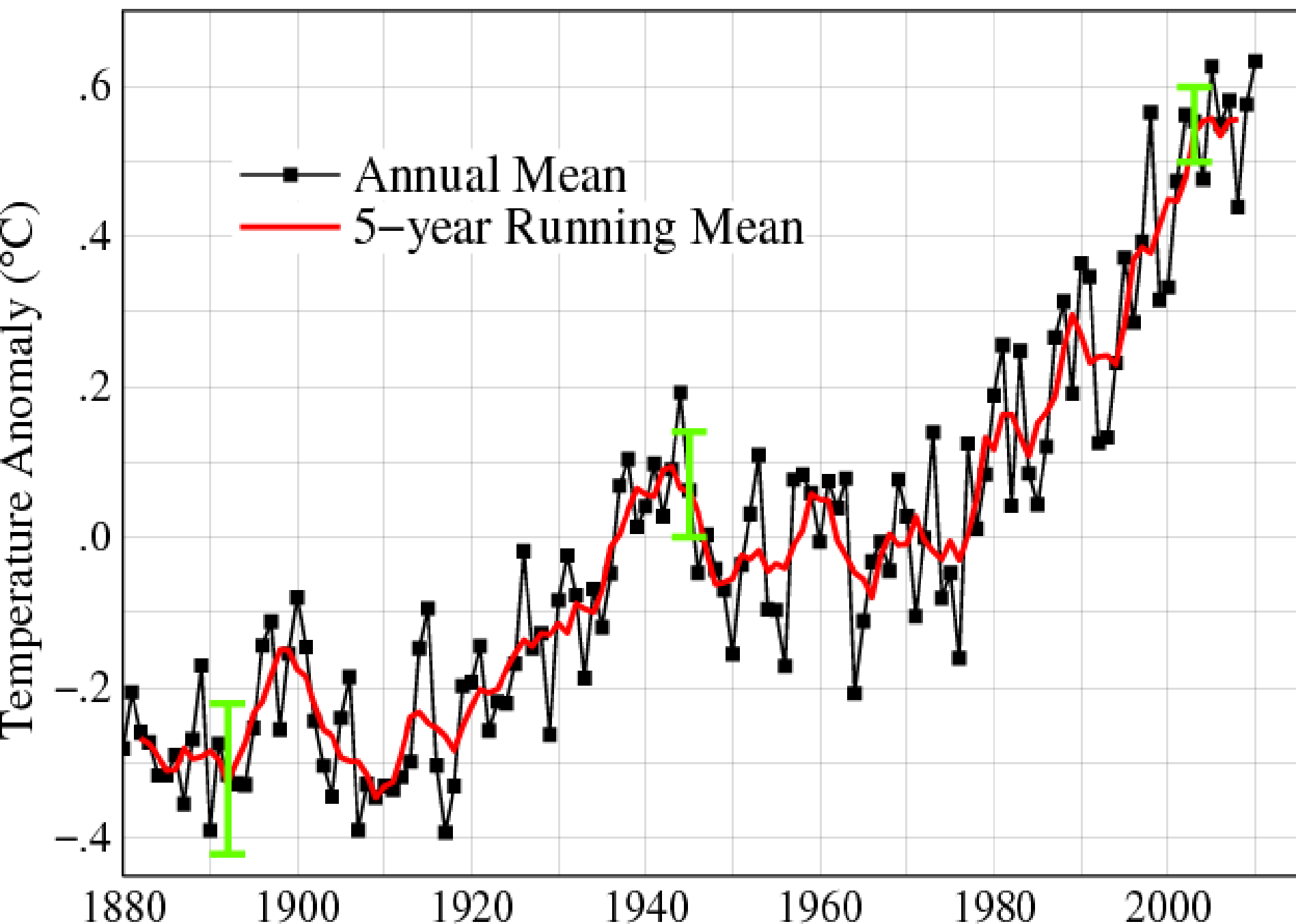
Oceans 2010



2010 data updated from:
Le Quéré et al. 2009, Nature Geoscience
Canadell et al. 2007, PNAS

CO2Now.org

Global Land-Ocean Temperature Index





Cross State Pollution Rule

- The rule requires upwind state utilities to significantly reduce NO_x, SO₂ and PM_{2.5} emissions
- Courts ruled last April after court challenges that EPA has the necessary authority to require emissions reductions at mid-west facilities to reduce pollutants crossing state lines

Asphalt Plant Air Permits

Air Permit Boiler Plate Revisions 2013

- VAA Environmental Committee members met with DEQ on the changes in early 2013
- Committee satisfied that the revisions were not significant for the industry

Waste Oil

- Waste oil burned as fuel must meet “on – specification” requirements (does not exceed certain contaminate levels)
- Supplier should provide certification for each delivery and records must be kept at plant
- Sulfur content below 0.5%
- PCB non-detectable (< 2 ppm)

Waste Oil

- DEQ may lower the sulfur content for waste oil from .5% to .2% in some permits
- Some suppliers cannot consistently meet that limit
- If your current permit has .5% don't worry about it for now – Not yet officially decided

Air Permit Application Fees

- Minor NSR plants subject to application fee (amount modified annually based on CPI)
Currently about \$516 (most plants)
- Administrative amendments are free
- True Minor plants pay no fees
- Annual \$1000 maintenance fee applies if a synthetic minor at 80% of “Major Source” emission levels

Hours of Operation

- In addition to the 12 month rolling average annual production of asphalt, tracking of the hours of plant operation must also be recorded with the same 12 month rolling average process
- Throughput of (fuel type) for dryer and asphalt needs the same 12 month calculation

The Form 7A Application for
Asphalt Plants now Includes the
boiler plate changes

RAP Crushers/Sizers

- Opacity observations done daily when operating with records of results kept at plant
- Method 9 visible emission tests conducted when daily observations indicate a problem
- Opacity must not exceed 15% for RAP processing units built after 1983 and before 2008 and 12% after 2008
- Exceptions for start-up, shutdown or malfunction

RAP Use

- There appears to be no restrictions on the % RAP use in mixes at this time.
- Mixes with over 10% RAP have a 20% opacity limit
- Less than 10% RAP mixes must meet a 5% opacity
- Annual throughput of RAP recorded using 12 month rolling average

Minor NSR Permit Exemptions

- Emergency use generators – Exempt from permitting if less than 1,675 hp
- 500 hour per year cap to be an emergency generator
- Natural gas fired boilers with a heat input of less than 50,000,000 BTU/hr. would be exempt from permitting
- See <http://www.deq.virginia.gov/Programs/Air/PermittingCompliance/Permitting/GeneratorPermitRequirements.aspx> for more info

RICE Rule for Generators

- EPA rules can apply even though the state is not enforcing them
- Conduct the manufacturers recommended O&M and keep the records on the slim chance that EPA may show up at your door
- If DEQ lists the equipment in your air permit, use the ultra low diesel as fuel and keep sulfur content records

**Virginia Asphalt Plant Environmental Reports
Air Pollution**

<u>Permit/Requirement/Report Type</u>	<u>Preparation</u>	<u>Timeframe</u>	<u>Location of R</u>
*Air Permit	Permit to Operate	Prior to Construction or Major Modification	Plant/DEQ
<ul style="list-style-type: none"> Initial Compliance Data 	Visible Emissions Evaluation	W/in 60 days of start-up (Report results w/in 45 days)	Plant/DEQ
<ul style="list-style-type: none"> Baghouse Monitoring 	Log of Monitoring Device Observations	Log entry at least once/day	Plant
<ul style="list-style-type: none"> Fuel Certification (oil) 	Supplier Report	With Each Shipment	Plant
<ul style="list-style-type: none"> Annual Production (plant) 	Monthly Calculation	Annual Report (Sum of Monthly Calculations – (Rolling 12 Month Total)	Plant/DEQ
<ul style="list-style-type: none"> **RAP Crusher (If Used) 	Throughput	Monthly Records – Rolling 12 mo. Total (each month)	Plant
<ul style="list-style-type: none"> Fuel Use (Drum, Dryer Oil Heater) 	Consumption	“	Plant
<ul style="list-style-type: none"> Hydrated Lime/Dust Silo 	Throughput	“	Plant
<ul style="list-style-type: none"> Other Documentation 	O&M, Training, Malfunction, Shutdown	Each Occurrence	Plant/DEQ w/ for malfunction

*** Note: The above requirements are for an oil-fired, recent permit issuance. There are a number of older permits that have different (usually fewer) requirements. You should check your individual permit for specific reporting requirements. There are also variations between regional offices on reporting requirements and you should check with your local DEQ for these changes. Most records have to be kept and available for at least 5 years.**

**** Some RAP Crushers require a separate permit. You should check with DEQ prior to putting into operation.**

***** Report malfunctions where opacity is exceeded for over an hour to DEQ within 4 days and document corrective actions (excluding the violations).**

Future Concerns

- Lower Ozone Standard
- Lower Coarse Particulate (PM10) Standard for Fugitive Dust – EPA Waiting for now
- Hourly Standard Roadside Monitor Data – National data looks good Bryan Park looks good
- Greenhouse gas permitting and controls?

Common Asphalt Plant Violations

- Dust problems
- Poor baghouse maintenance
- Record keeping