

# EPA's Approaching Regulatory Cliff

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Over the last 4 years

“An EPA regulatory spree unprecedented in U.S. history”

*The Wall Street Journal*, March 4, 2011

# An Unprecedented Barrage

## New EPA Rules: 2009 - 2012

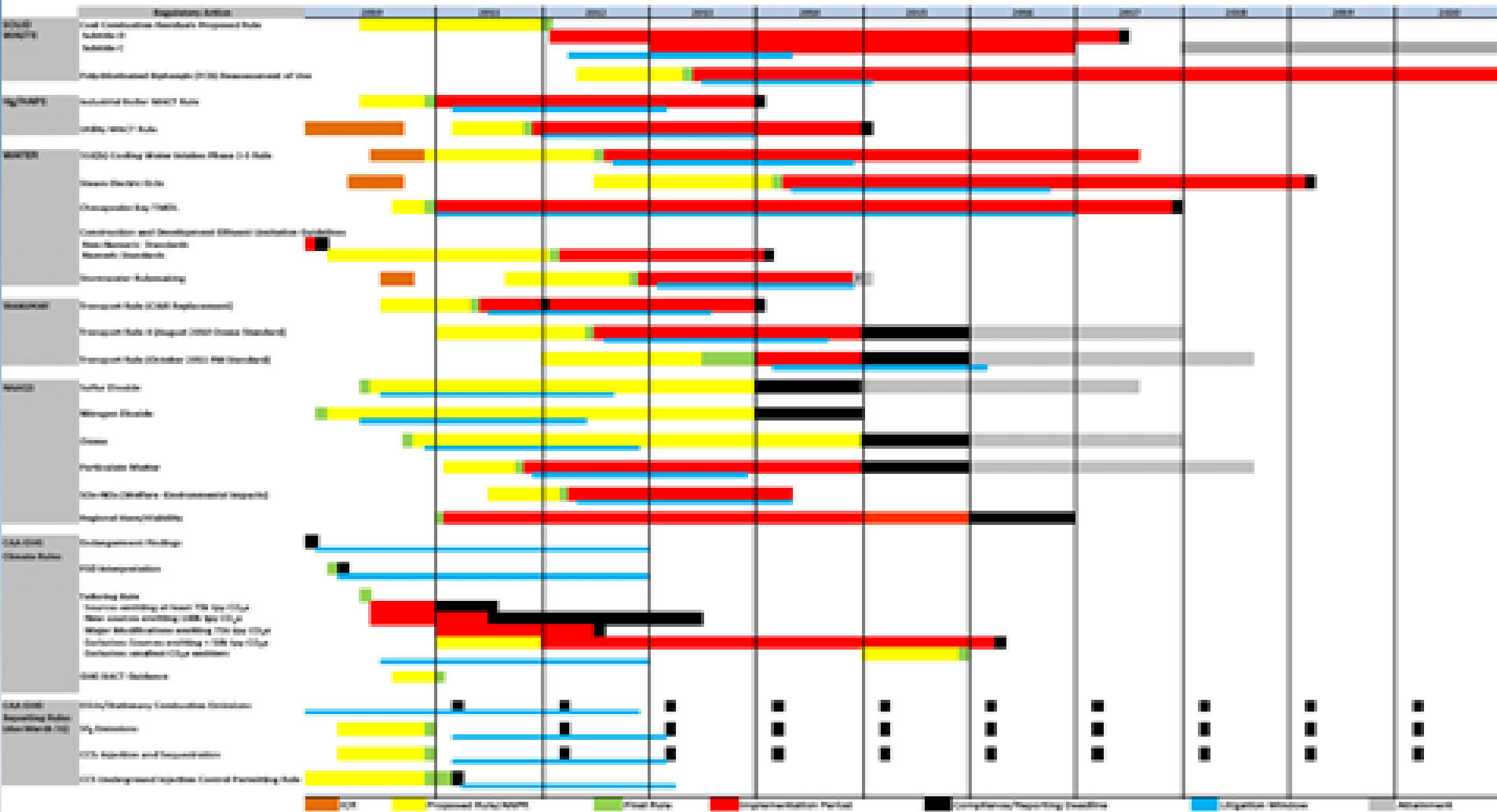
- The EPA has churned out new regulations in unprecedented number, speed, scope, stringency, and cost.
- Projected impacts on an unparalleled scale: cost, employment, electric rates, electric reliability, and U.S. competitiveness.
- NERC, FERC, et al: Four of the EPA rules could force retirement of over 80 GW of U.S. electric generating capacity of 1010 GW by 2015.
- Compliance costs of single rules in multi-billions.

# Converging Dates and Cumulative Impacts

- 4 New NAAQS: O<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub>, PM 2.5
- Cross-State Rule (CASAPR)-Vacature
- Electric Utility MACT (MATS)
- Industrial Boiler MACT
- Portland Cement Kiln MACT
- Cooling Water Intake Rule (CWIR)
- Coal Combustion Residuals Rule (CCR)
- First NSPS & NESHAPS for Oil and Gas Sector
- GHG Regulation

# Converging Effective Dates

## Detailed View: Possible Timeline for Environmental Regulatory Requirements for the Utility Industry



# There Is No Environmental Crisis!

- The U.S. has achieved major air quality improvements.
- Since 1970, emissions from EPA criteria pollutants have been reduced by 53% while US GDP increased by 200%.
- Virtually entire U.S. has achieved 4 of 6 NAAQS.
- Since 1997, ozone non-attainment counties have fallen from 113 to 30.
- Since 1988, HAPS have declined 65%.
- Mobile source emissions of PM & NOx down 90% while vmt increased 165%.

“On what principle is it that, when we see nothing but improvement behind us, we are to expect nothing but deterioration before us.”

T. B. Macaulay, 1830

Over the last century, lifespan in the U.S. has increased 70%.

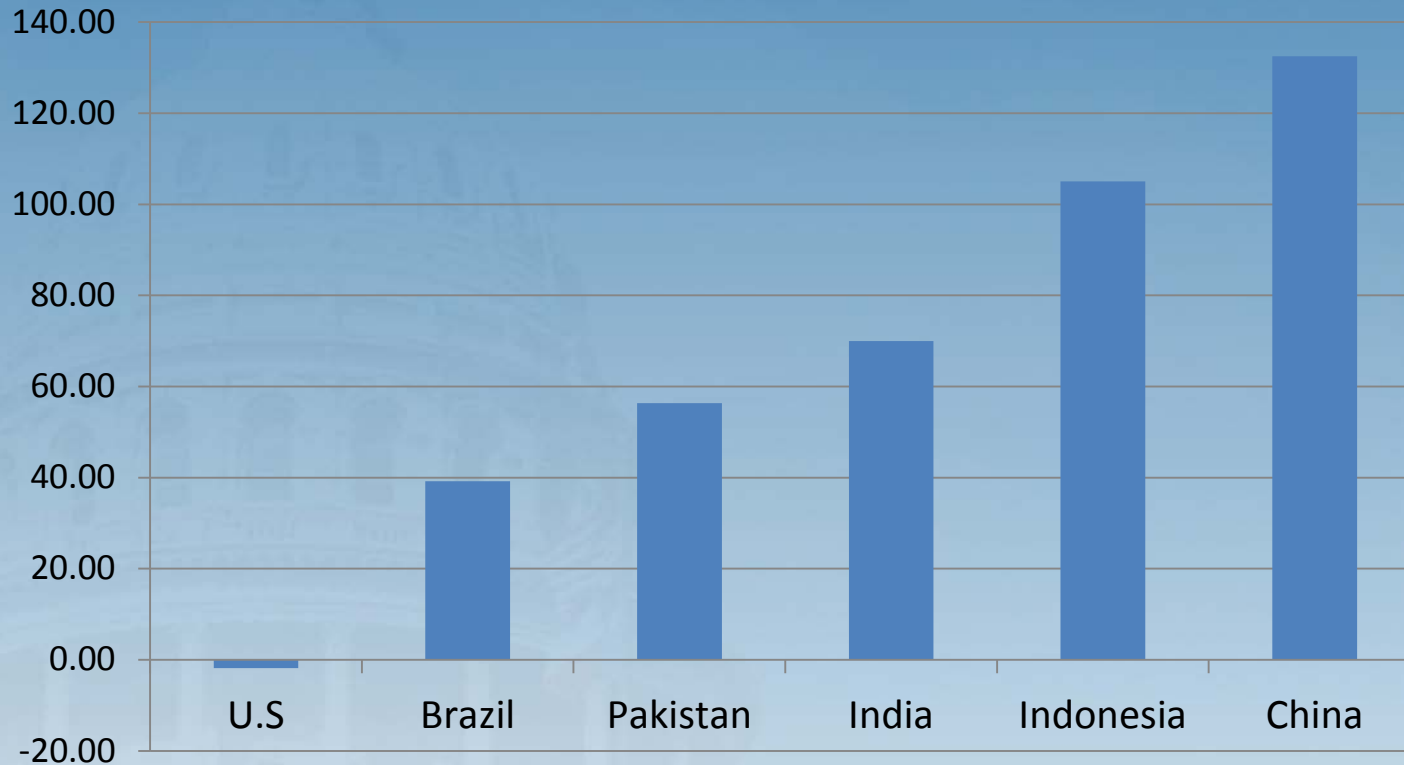
# Change in National Average Ambient Levels and Emissions 1980-2008

	Ambient	Emissions
Carbon Monoxide (CO2)	-79%	-58%
Ozone (O3)	-25%	-49%
Lead (Pb)	-92%	-96%
Nitrogen Dioxide (NO2)	-46%	-40%
Particulates (PM10) 1985-2008	-31%	-46%
Fine Particulates (PM2.5) 1985-2008	-21%	-36%
Sulfur Dioxide (SO2)	-71%	-56%

Source: EPA



# Percent Change in CO2 Emissions Per Capita in the Six Most Populous Countries, 1990-2007



Source: International Energy Agency, "CO2 Emissions from Fuel Combustion 2009," <http://www.iea.org/co2highlights/co2highlights.pdf>, 90-91

# The Texas Model

## An Amazing Environmental Story

- Houston - Home of the world's largest petro-chemical complex, with a Gulf climate optimal for ozone formation. Long vying with Los Angeles for the most ozone-polluted city in the U.S.
- In 2009 and 2010, Houston attained the still legally binding 85 ppb NAAQS for ozone.
- A state accomplishment—in spite of EPA.

# Cross-State Air Pollution Rule (CSAPR)

- Effective date was January 1, 2012. After 60% reduction of SO<sub>2</sub>, CSAPR mandates further 76% reduction by 2014.
- EPA's purpose is to reduce interstate transport of power plant emissions of SO<sub>2</sub> and NO<sub>x</sub> viz. O<sub>3</sub> & PM NAAQS.
- But -27 targeted states in violation of 24-hour particulate standards less than 0.5 % of time between 2008-2009.
- EPA's projected cost of compliance: \$7 billion.
- NERC, ERCOT, SPP and state utility regulators - reliability problems as early as 2012.
- AEP and Luminant announce EGU idling and layoffs.
- 8/12 DC Circuit Vacature but EPA will try again

# Electric Utility NESHAP MACT AKA MATS

- The Whopper in cost and reliability impacts.
- Adopted 12/11, MACT limits on mercury (Hg) (91% reduction) and hazardous air pollutants (HAPs) from EGUs.
- EPA estimates compliance costs \$11 billion; Edison Electric Institute estimates \$100 billion cost by 2015 and up to \$200 billion by 2020.
- 1300 electric generating units impacted.
- NERC estimates rule could force retirement of 15 GW of U.S. generating capacity.

# Utility MACT Rule (MATS)

- Direct cost - \$11 billion per year
- EPA admits the most expensive rule to date
- Weak, cherry-picked science supporting EPA limits—  
sustenance diet of whale blubber in Faroes Island
- **EPA limit 2-3 times stricter than World Health Organization,  
U.S. Agency for Toxic Substances.**
- **U.S. EGUs account for 0.5% of airborne mercury**
- EPA admits rule will not reduce risk.
- **Hg reduction health benefits only .0004 % of EPA claimed  
\$140 billion health benefits.**

# Utility MACT Rule (MATS)

- Regulation by absolutist precautionary principle  
“...we may determine it is necessary to regulate under section 122 even if we are uncertain whether[the rule]...will address the identified hazards.  
...we believe it is reasonable to err on the side of regulation of such highly toxic pollutants in the face of uncertainty.” EPA

(Federal Register, Vol. 76, No. 85, 6/3/11, p. 24991)



# Industrial Boiler MACT

- As Adopted, rule imposed maximally stringent emission limits and monitoring requirements on HAPs from over 187,000 boilers.
- Best performing claim limits are unachievable.
- United Steel Workers and other unions claim new rule could send 700,000 U.S. jobs overseas.
- 62 Senators & 117 Congressmen urged reconsideration. Court forced adoption. EPA granted reconsideration after adoption.
- Newly proposed standards apply to 5,500 boilers.
- Partial reconsideration pending.

# Portland Cement Kiln MACT

- Adopted rule binds 165 of 181 Portland cement kilns operating in U.S.
- MACT limits unachievable for many plants.
- Current imports of cement from China (20 millions tons) may more than double (to 48 million tons).
- EPA low ball estimate: rule will reduce U.S. cement production by 8-15 percent. 18 plants may close.
- Partial reconsideration pending.



# New Ozone NAAQS

- President, unusually, set-aside Labor Day 2011
- Planned reconsideration 2013.
- CRS estimates that EPA's new standard (60-70 ppb) would increase number of nonattainment counties from now 85 to 650 of 3,000 counties.
- At 70 ppb, Brewster County, TX—nonattainment.
- EPA estimated cost: \$90 billion annually.

# Fine Particulate Matter (PM 2.5)

- One of six criteria pollutants under the CAA.
- From man-made and natural sources (constant and pervasive – eg dust).
- Major reductions achieved.
- Since 1990 – tailpipe emissions reduced over 90% while vmt increased 165%.
- EPA proposes lowering the current annual PM 2.5 NAAQS from 15ug/m<sup>3</sup> to 12-13ug/m<sup>3</sup>.

# EPA Is Obsessed With PM 2.5

- Since 2009 uses “coincidental” reduction of PM 2.5 to justify other major air rules.
- MATS, Ozone, CSAPR, Boiler rules: 50-99% of the health benefits attributed to PM 2.5 reduction.
- EG 99.9% of health benefits from MATS from PM 2.5 co-benefits.
- See [“EPA’s Pretense of Science: Regulating Phantom Risks”](#).

# EPA: No Risk Is Too Low To Regulate

- EPA Administrator Jackson to Congress: reducing PM 2.5 – health benefits equivalent to a cure for cancer.
- NAS: “EPA’s science is on the rocks.”
- Since 2009 EPA’s Four Implausible Assumptions
  - Assumes weak statistical correlation is causation
  - No safe threshold – including below natural background to zero
  - Aggregates of relative statistical risk = individual human life
  - Co-benefits of PM 2.5 reduction adequate justification for any air rule
- Growing chorus urging reform of EPA and the CAA
- CAA has “arterial sclerosis” – breaking the Logjam Report and NRC

# Coal Combustion Residuals

- Fly ash and other residuals after coal combustion is valuable material in cement, road surfacing and dry wall.
- EPA considering mandating disposal under RCRA as solid waste or hazardous waste.
- Possible compliance costs: \$43 billion if classified solid waste; \$80 billion if classified hazardous waste.

# Cooling Water Intake Rule

- Most steam-generating power plants use surface water for cooling.
- New rule to require far costlier closed-cycle cooling towers to prevent fish impingement and entrainment. New fish won't do!
- Could cost \$64 billion, forcing retrofit of 444 plants, affecting 33 percent of U.S. electric generating capacity.



# NSPS and NESHAP for Oil and Gas Sector

- Classic EPA form—rushed, unjustified, needlessly burdensome, flawed, and infeasible.
- One-size-fits-all model for highly diversified sector.
- Dictating how to operate (specific equipment) instead of what is the goal.
- “Compliance Assurance” a multi-layered burden for all sites.
- Back door GHG regulation.
- EPA’s “Reduced Emissions Completion” mandate misconstrues industry process.
- REC to be immediately effective—practicably impossible.

# EPA's GHG Regulation Under the CAA

## Arrogation of Congressional Authority for Huge Policy Decision

- 2007 4<sup>th</sup> Assessment Report of UN's IPCC.
- 2007 US SC Ruling in "Massachusetts".
- 2008 ANPR Bush Administration.
- 2009 Endangerment Finding that GHG (CO<sub>2</sub>) harms human health and thus CAA compels regulation.
- CAA among the most sweeping federal statutes.
- EPA now has centralized regulatory control of the economy.



# EPA GHG Regulations

4 Rules in 12 Months Effective January 1, 2011

- Mobile sources – CAFÉ Standards w/ NHTSA.
- Fleet average of 54 mpg by 2025 – assumes Volt et al are popular. Est. Cost - \$157 billion.
- Timing Rule – Mobile sources trigger Stationary sources.
- Tailoring Rule – GHG Regulation of Stationary sources (EPA rewrites the CAA).
- FIP on Texas – automatically effective (aka Interim Final Rule).
- Inglorious mess arrives
- June 26, 2012 DC Circuit Court of Appeals upholds EPA's GHG Rules.
- Court says “EPA doesn't have to prove the existence of the atom every time it adopts a new rule.”
- In other words, courts do not question EPA's scientific judgment if appears reasonable

# First Hard-Edged Greenhouse Gas Regulation Bans New Coal

- CO2 emission limits for electric generating units (EGUs)
- “You can have any new EGU you prefer as long as it is Combined Cycle Natural Gas”.
- CO2 limits for all EGUs set at (non-regulated) CO2 level from Combined Cycle NG Generation.
- EPA distorts basic architecture of CAA requiring “Best Demonstrated Technology” to control emissions.
- EPA claims just reinforcing the market’s choice for NG.
- EPA openly admits no benefits and maintains no costs.
- Multiple coal mine and power plant closures – as many as 200.
- May implicate existing EGUs.

# Risk to U.S. Electrical Generating Capacity

- NERC predicts that four rules (not including ghg) jeopardize U.S. electric reliability.
  - 80,000 MW of existing capacity could be lost.
  - Involuntary Retirement of coal-fired EGUs. Coal now provides 50% of net generation and 40% generating capacity.
  - EPA rules—#1 reliability risk in next 5 years.
- Other studies find higher risk: Credit Suisse, M. J. Bradley, Sanford Bernstein and Edison Electric Institute.
- Up to 100 GW of coal-fired EGU capacity at risk.
  - 10 % of total US capacity(1010 GW) from source that provides 50 % of U.S. electricity. Coal is now critical for base-load power.
  - EPA's reliability cover-up and FERC's abdication -WSJ

# Push-back on EPA Train Wreck

- 20-30 states challenge rules in federal court. Hundreds of private entities.
- 10 bills to restrain EPA pass U.S. House.
- REINS Act: Congress must approve major EPA rules. Passed House multiple times.
- NAS, et al: EPA Science is “on the rocks.”
- Breaking the [EPA] Logjam: common ground for reform of CAA.

# At the Least ...

- Too much, too fast!
- Weak science is the core of the problem.
- Massive cost.
- Job losses over 100,000 to over 1 million.
- Marginal to non-measurable benefits.
- Inopportune time for a struggling economy.
- Cumulative impacts—converging dates.

# EPA's Five Year Economic Plan

EPA is using the broad authority of the CAA to drive a federal energy policy repeatedly rejected by the U.S. Congress.



# Ironic Coincidence: The Energy Boom and the EPA Train Wreck

- Historic upsurge in U.S. oil and gas production.
- Through risk-taking entrepreneurs' capital-intensive investment for technological innovations in a competitive market.
- Contrast with the public investment model: Solyndra, et al.
- Energy sector- key to U.S. economic recovery.

# Federal Regulation

## A Murky but Massive Drag on Business and Individual Liberty

- 2010 – total annual cost (direct compliance) - \$26 billion.
- EPA rules - \$23 billion of the total \$26 billion.
- “The EPA’s regulation has grown to the point where it amounts to nothing less than a massive effort at Soviet-style planning of the economy to achieve environmental benefits.”

Richard Stewart (1988)

A founding trustee of the Environmental Defense Fund



# EPA's Status Quo

## Undermines Constitutional Democracy

Unelected federal employees making decisions of national consequence.

“The American people will never knowingly adopt Socialism. But, under the name of “liberalism”, they will adopt every fragment of the socialist program, until one day America will be a socialist nation without knowing what happened.”

Norman Thomas, 1944

Six times presidential candidate for Socialist Party of America