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EPA Deregulation Timeline: From 2017 to the 2025 Agenda

Environment * Climate Change * Conservation

Introduction: From Cooperative Federalism to Energy Dominance

Across the first term (2017-2021) and second term (2025-present) of President Donald J. Trump, the U.S. Environmental Protection Agency (EPA) underwent a structural transformation from "cooperative federalism" to the doctrine of "Energy Dominance." Synthesizing statutory law, atmospheric chemistry, hydrology, and toxicology, this report examines how federal policy subordinated pollution control to the maximization of domestic fossil fuels extraction.[1][2]

During the first term, Executive Order 13778 under Administrators Scott Pruitt and Andrew Wheeler initiated rollbacks of the Clean Power Plan and the Waters of the United States (WOTUS) rule.[3][4] The second term accelerated this agenda on January 20, 2025, with the "Unleashing American Energy" Executive Order requiring all regulatory constraints to demonstrate explicit statutory authorization.[2] On March 12, 2025, Administrator Lee Zeldin announced 31 coordinated deregulatory actions targeting Clean Power Plan 2.0, oil and gas methane rules (Subparts OOOOb/c), and the Mercury and Air Toxics Standards (MATS), while reconstituting the Science Advisory Board (SAB) and Clean Air Scientific Advisory Committee (CASAC) to reshape the agency's scientific review apparatus on climate change.[5][7][41]

Atmospheric Science, Power Plant Thermodynamics, and the Endangerment Finding

Regulation of greenhouse gases (GHGs) under Clean Air Act Section 111(d) centers on defining the "Best System of Emission Reduction" (BSER) and the thermodynamics of power generation. Where the Obama-era Clean Power Plan defined BSER via grid-wide "generation shifting," the 2019 Affordable Clean Energy (ACE) rule restricted BSER to "inside the fence line" heat rate improvements at coal plants.[8][9] Lowering the heat rate improves thermal efficiency, but triggers a thermodynamic "rebound effect": lower marginal operating costs increase coal dispatch in wholesale markets, raising cumulative absolute emissions.[8]

Following the Supreme Court's 2022 decision in West Virginia v. EPA invalidating generation shifting under the Major Questions Doctrine, the Biden administration issued Clean Power Plan 2.0 in 2024 based on Carbon Capture and Sequestration (CCS) and hydrogen co-firing.[10][11] In March 2025, Zeldin initiated the repeal of Clean Power Plan 2.0, citing commercial infeasibility and baseload grid reliability.[12][13] In July 2025, the EPA also moved to reconsider the foundational 2009 Endangerment Finding, which established that six GHGs -- carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6) -- threaten public welfare through positive radiative forcing.[14][15] Challenging high-emission climate sensitivity models (such as RCP8.5) to rescind the Endangerment Finding would eliminate the statutory predicate for regulating GHG emissions across power plants and vehicles.[7][15]

Tropospheric Methane Chemistry and the Super-Emitter Gap

Although methane persists for roughly 12 years before oxidation by hydroxyl radicals (OH) into CO2 and water vapor, the Intergovernmental Panel on Climate Change (IPCC) estimates its 20-year Global Warming Potential (GWP) at ~83 times CO2.[16][17] Satellite and airborne flux measurements consistently find oil and gas emissions four to six times higher than bottom-up equipment inventories due to intermittent "super-emitters" and unlit flares.[19]

The 2024 NSPS OOOOb/c rules phased out gas-driven pneumatic controllers, mandated continuous flare monitoring, and authorized third-party remote sensing.[20] In July 2025, the EPA issued an Interim Final Rule delaying OOOOb/c compliance deadlines by 18 months while proposing to curtail Subpart W reporting, allowing fugitive methane and ozone precursors to enter the troposphere unverified.[18][21][22]

Watershed Connectivity, Toxic Effluents, and Chemical Risk

In Clean Water Act governance, ephemeral and intermittent streams transport sediment, carbon, and nutrients downstream while recharging aquifers, and isolated wetlands provide denitrification and flood storage.[23] The 2020 Navigable Waters Protection Rule (NWPR) restricted protection to continuous surface connections, deregulating ~690,000 stream miles and 25% of U.S. wetlands.[24][25] Following the Supreme Court's 2023 Sackett v. EPA ruling rejecting the "significant nexus" test, the EPA proposed a late-2025 rule removing standalone jurisdiction over interstate waters.[26][27][28]

Parallel rollbacks targeted industrial toxics and agricultural chemicals:

* Steam Electric Effluent Guidelines (ELGs): Coal scrubber wastewater contains selenium, arsenic, and mercury.[29] Because chemical precipitation fails to remove soluble selenate -- which bioaccumulates in fish and causes teratogenic deformities -- the 2024 ELG rule mandated membrane filtration.[30][31] The 2025 reconsideration restores chemical precipitation exemptions for low-utilization plants.[32]

* Mercury and Air Toxics Standards (MATS): Airborne mercury is methylated by aquatic bacteria into neurotoxic methylmercury.[22] The administration targeted the 2024 MATS tightening for repeal by excluding particulate matter (PM2.5) co-benefits from cost-benefit accounting.[7][22]

* Chlorpyrifos and TSCA: Whereas animal toxicology evaluates chlorpyrifos solely by acetylcholinesterase (AChE) inhibition, human cohort epidemiology links prenatal exposure below AChE thresholds to pediatric neurodevelopmental deficits.[33][34] In January 2025, the EPA moved to restore chlorpyrifos food tolerances and narrow chemical risk evaluations under TSCA.[35][36]

Epistemological Shifts and Judicial Deconstruction

Executive Order 14303 ("Restoring Gold Standard Science," May 2025) revived the first term's "Secret Science" framework, requiring raw underlying data to be publicly reproducible -- detailed further in the EPA's January 2026 implementation report -- while structurally discounting epidemiological cohorts whose confidential medical records cannot be disclosed.[37][38][39] Paired with Loper Bright v.

Raimondo (2024) overturning Chevron deference, the agency deploys statutory "self-deregulation" while preempting stricter state climate mandates.[40][42]

2026 Final Repeals, Rulemakings, and D.C. Circuit Litigation

Across 2026, the EPA converted its 2025 deregulatory proposals into final federal rules spanning greenhouse gases, power-plant toxics, wastewater, and clean water jurisdiction. On February 18, 2026, the agency published its final Rescission of the Greenhouse Gas Endangerment Finding and Motor Vehicle Greenhouse Gas Emission Standards Under the Clean Air Act, eliminating the 2009 endangerment predicate for federal tailpipe climate rules.[43] A coalition of 25 state Attorneys General alongside public health and environmental organizations petitioned the U.S. Court of Appeals for the D.C. Circuit to vacate the rule, though the court declined emergency stay motions while merits briefing proceeds.[44]

In parallel, the EPA issued a final repeal of the 2024 Mercury and Air Toxics Standards (MATS) power-plant revisions on February 24, 2026;[45] promulgated April 9 and October 29, 2026 oil and natural gas NSPS reconsideration actions modifying Subpart OOOOb/c requirements;[46][50] proposed revised Steam Electric ELG standards targeting unmanaged combustion residual leachate on May 18, 2026;[47] released a September 9, 2026 supplemental notice narrowing WOTUS jurisdiction;[48] and finalized on September 17, 2026 a partial repeal of Clean Air Act Section 111 carbon pollution standards for fossil fuel-fired power plants alongside a supplemental proposal rescinding all utility GHG findings under Section 111.[49]

| Policy Domain | | Obama / Biden Baseline | | Trump Action (2017-2021 & 2025-2026) | | Mechanistic Consequence |

| Power GHGs | | CPP & CPP 2.0 (Grid shifting, CCS) | | ACE Rule (2019); Endangerment Rescission & Sec. 111 Partial Repeal (Feb/Sep 2026) | | Heat-rate rebound effect; removal of statutory GHG predicate.[8][43][49] |

| Methane | | NSPS OOOOb/c (Continuous monitoring) | | 18-month delay (2025) & Apr/Oct 2026 NSPS reconsiderations | | Reduced monitoring mandates delay repair of super-emitter leaks.[19][46][50] |

| Watersheds | | 2015 / 2023 WOTUS ("Significant Nexus") | | NWPR (2020) & Nov 2025 / Sep 2026 WOTUS rulemakings | | Deregulation of ephemeral streams and non-contiguous wetlands.[25][28][48] |

| Coal Effluents & MATS | | 2015 / 2024 ELG & MATS tightening | | 2026 MATS Final Repeal (Feb 2026) & Leachate ELG proposal (May 2026) | | Sustained selenate discharge and exclusion of PM2.5 co-benefits.[30][45][47] |

| Pesticides & Science | | Chlorpyrifos ban; epidemiological accounting | | Chlorpyrifos restoration; EO 14303 EPA plan (Jan 2026) | | Exclusion of confidential human cohort epidemiology.[34][38][39] |

| Date | | Milestone | | Regulatory & Legal Significance |

| Feb 28, 2017 | | Executive Order 13778 | | Initiated formal review and repeal of the 2015 Clean Water Rule (WOTUS).[3] |

| Jun 19, 2019 | | ACE Rule Finalized | | Replaced grid-wide Clean Power Plan with

inside-the-fence heat rate standards.[8] |

| Jun 30, 2022 | | West Virginia v. EPA | | Supreme Court invoked Major Questions Doctrine to restrict system-wide EPA mandates.[10] |

| Jan 20, 2025 | | "Unleashing American Energy" EO | | Mandated fossil fuel maximization and strict statutory authority reviews.[2] |

| Mar 12, 2025 | | "Day of Deregulation" | | Administrator Zeldin launched 31 deregulatory actions and advisory board restructurings.[5][6] |

| May 23, 2025 | | EO 14303 ("Gold Standard Science") | | Restricted regulatory reliance on non-public epidemiological datasets.[38][39] |

| Feb 18-24, 2026 | | Endangerment & MATS Final Repeals | | Rescinded the 2009 GHG Endangerment Finding and repealed 2024 coal/oil MATS standards, sparking D.C. Circuit challenges.[43][44][45] |

| May-Oct 2026 | | ELG, WOTUS, Methane & Sec. 111 Actions | | Advanced ELG leachate rules (May), WOTUS SNPRM (Sep 9), Section 111 carbon partial repeal (Sep 17), and OOOOb/c reconsiderations.[46][47][48][49][50] |

Conclusion: The Restructured Environmental State

Spanning 2017 through late 2026, the deregulatory restructuring of the EPA combines post-Chevron statutory narrowing with heightened evidentiary barriers for observational epidemiology and climate modeling. Having finalized repeals of the 2009 Endangerment Finding, the 2024 MATS limits, and Section 111 power-plant carbon standards across 2026 -- actions now under active review in the D.C. Circuit -- this agenda shifts the burden of proof from industrial emitters onto federal regulators, setting up a defining collision with the physical realities of radiative forcing, watershed hydrology, and bioaccumulative toxicology.[43][44][49]

Updates... (Nov 22, 2026): Enriched all 50 Works Cited entries with verified publication dates (including DB-flagged Refs #3, #5-#6, and #8-#12 plus Refs #1, #4, #13-#37, and #39-#50), replaced Cloudflare-blocked Holland & Knight URL in Ref #7 (DB flag #12507) with Columbia Law School Sabin Center analysis (Mar 12, 2025), corrected Ref #25 to Druckenmiller & Shapiro (Jan 31, 2024) and Ref #33 to Christensen et al. (2009), and expanded CrossRef full author lists and volume/issue/page citations for Refs #1, #4, #19, #34, and #37.

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