

Environmental Protection Agency

This memo outlines key ways in which the Environmental Protection Agency (EPA) can establish and restore the principles of scientific integrity, as well as repair and rebuild its scientific capacity. Specific priorities and steps the agency can take to effectively act on these issues are identified.

EPA and its mission have been adversely affected by the abandonment and sidelining of science over the past three-and-a-half years. Created in 1970 to consolidate numerous federal programs into one agency, EPA operates under 15 separate laws to protect public health and the environment. Each law spells out an aspect of EPA's mandate and authority. EPA implements these authorities by issuing regulations and guidance, taking enforcement actions, and giving approval to conduct (permitting) certain activities. Science underlies all of these activities and several of the laws specifically require the use of the best available science. Scientists of various disciplines populate all of EPA's program areas, and EPA has an Office of Research and Development (ORD) that conducts basic research on human health and the environment and supports programs by answering critical questions regarding the science underpinning regulatory decisions. ORD also sponsors research in academic laboratories.

The current administration has severely undercut EPA's mission by rolling back standards and diminishing scientific support for the agency's mission. The following high-priority areas need attention.

Top Priorities

- **Eliminate the “transparency” rule.** There is no single action that more adversely impacts EPA's ability to do its job than the proposed “Strengthening Transparency in Regulatory Science” rulemaking (83 FR 18768). While the title may sound good, it is a Trojan horse. It is detrimental to high-quality, impartial decisionmaking on behalf of the health and safety of the American public and the environment because it limits the scientific studies that the agency can consider, and allows the agency to place less weight on studies that indicate a need for stronger regulations. This rule should be withdrawn.
- **Strengthen scientific advisory committees.** EPA has barred recipients of EPA grants from serving on advisory committees and arbitrarily reduced the number of advisory committees, thereby depriving EPA of expertise. These actions should be reversed to ensure the agency can benefit from experts' advice.
- **Strengthen scientific integrity.** There have been multiple attacks on science at EPA that range from proposing enormous cuts in funding and attacking the credibility of established science to politically interfering with science communication and assessments. EPA must take action to ensure that science and the work of its scientists are not compromised by political considerations.
- **Address rollback of regulations.** One of the Trump administration's top priorities was to roll back numerous regulatory requirements based on false claims that they posed a burden on the economy. These rollbacks are not scientifically defensible. The administration has also failed to regulate in cases where the science clearly shows that additional regulation is warranted. The *New York Times* has reported that more than **60 such rollbacks have already occurred**. EPA must swiftly review these rollbacks and prioritize for remedial action those the evidence shows to be inappropriate.
- **Enhance staffing and resources.** Administration actions over the past three years have led to a hollowing out of the agency as senior civil servants have retired and other staff have left. While EPA's budget has not suffered the severe cuts proposed in each of the recent presidents' budgets, EPA's budget in real dollars has declined by 25 percent since 2010 and inadequate funding and staffing have imposed significant limitations on the agency's mission. Increased funding and staffing are essential to allow EPA to fulfill its mission.

Key Science/Regulatory Appointment Positions

- Assistant Administrator for Air and Radiation
- Assistant Administrator for Chemical Safety and Pollution Prevention
- Assistant Administrator for Research and Development
- Assistant Administrator for Office of Water
- Assistant Administrator for Land and Emergency Management

Actions for the First 100 Days

- If the transparency rule has not been finalized, suspend or rescind the proposal.
- If the transparency rule has been finalized,
 - announce that the administrator will use the discretion provided to EPA in the rule to suspend its application pending its revocation, and
 - announce that EPA will draft realistic science-based guidance, not rules, through an open process to ensure the integrity of the decisionmaking process.
- Rebalance scientific advisory committees by reappointing members who have been disqualified by former EPA Administrator Pruitt's directive barring grant recipients from serving on federal advisory committees.
- Advise the president to repeal Executive Order 13875, which reduces the number of federal advisory committees by one-third.
- Reinstate key advisory committees that have been disbanded.
- Identify the deregulatory actions taken by the Trump administration and prioritize for remedial action those the evidence shows to be inappropriate.
- Issue a directive that, in calculating the benefits of a regulation, the agency must follow the standard, well-established practice of considering all the benefits, direct and indirect.
- Appoint strong, well-qualified leaders, free of conflicts of interest and supportive of the agency's mission, to manage the transition of EPA back to a high-functioning organization.

- Restore collective bargaining rights to EPA employees and negotiate a new contract in good faith, using the last mutually agreed-upon contract as a starting point.
- Request significant increases in full-time employees (FTEs) and funds to allow EPA to carry out its 21st century responsibilities.
- Restore funding for core science through the Science and Technology (S&T) Account to its 2010 level of \$1 billion (in 2020 dollars).

Actions for the First Year

- Strengthen the scientific integrity policy to provide greater protection to scientists and their work from political interference.
- Reissue the rule regulating mercury emissions from coal-fired power plants.
- Revise the National Ambient Air Quality Standard for particulates and conduct a review of the adequacy of the current NAAQS for ozone.
- Restore the 2015 definition of "Waters of the United States."
- Ban all uses of the pesticide chlorpyrifos.
- Redo flawed risk evaluations under the Toxic Substances Control Act, including those for asbestos, methylene chloride, and trichloroethylene.
- Ban all uses of methylene chloride.
- Set greenhouse gas standards to transition all on-highway vehicles from gasoline to electricity.
- Evaluate the benefits of reissuing the Clean Power Plan with potentially updated goals that take into account progress that has already been made in reducing carbon emissions and current opportunities for greater reductions.

Ongoing Actions

- Appoint the best-qualified scientists to committees.
- Restore a culture in which the mission of EPA and its employees are valued. Seek out and develop relationships with current career staff, particularly during the transition, to build trust and momentum and to communicate

effectively with the career workforce. Include career staff in decision meetings as an important step in building trust and communication.

- Strengthen recruitment and hiring of diverse staff to meet critical needs. Given the serious reductions in EPA staffing, there is an urgent need to significantly strengthen EPA's recruitment and its pace of hiring staff with the skills and experience needed to address pressing needs in science, technology, analytics, and mission support. Place an emphasis on increasing the representation of people of color within EPA's workforce to fill historic gaps.
- To avoid "reinventing the wheel," take advantage of the historical perspective and expertise available in the Environmental Protection Network (EPN), which harnesses the expertise of former EPA career staff and confirmation-level appointees from multiple administrations.

Priority 1: Eliminate the "Transparency" Rule

EPA has a long-established history of using the latest peer-reviewed science in decisionmaking. EPA's proposed "Strengthening Transparency in Regulatory Science" rulemaking is detrimental to high-quality, impartial decisionmaking on behalf of the health and safety of the American public. (See EPN's comments and testimony on this [proposal to censor science](#).) The rulemaking would have far-ranging consequences. It would reverse the decades-old EPA practice of using the best available science in carrying out the responsibilities the US Congress placed on the agency and violate some statutes that require EPA to use the best available science. It would also deprive agency decisionmakers of access to vetted studies published in scientific journals for which some of the underlying data cannot be made publicly available and would require duplicative testing and delays in making regulatory decisions when data cannot be made available for published studies. Epidemiological studies have been critical in setting environmental standards, including standards that have improved air and water quality. However, the proposed rule would prohibit the use of many epidemiological studies because these studies rely on personal information that, if disclosed, would violate the privacy of study subjects. The proposed rule also gives excessive authority to the administrator to pick and choose which studies to include in policy evaluations, regardless of their source or vetting, and without transparent criteria for disclosing the rationale for the decisions.

Priority 2: Strengthen Scientific Advisory Committees

Federal advisory committees operating under the Federal Advisory Committee Act (5 U.S.C. Appendix—Federal Advisory Committee Act; as amended) provide valuable scientific advice to EPA at a bargain price. On October 31, 2017, then-EPA Administrator Scott Pruitt issued a directive that banned academic scientists who received EPA grants from serving on EPA federal advisory committees. He gave them a choice: either give up their grants and remain on the committees, or keep their grants and resign. The stated reason for Pruitt's policy shift was to obtain independent advice and avoid conflicts of interest associated with the receipt of research funding from EPA. However, no parallel prohibition was made for industry scientists or academic scientists who receive industry funding, so the result has been to increase the number of industry-affiliated committee members while decreasing the number of academics. The Natural Resources Defense Council (NRDC) challenged the directive in court (19cv5174 (DLC)). On February 20, 2020, the court granted NRDC's motion for summary judgment ruling that EPA's action was arbitrary and capricious. EPA has stated that it will not appeal the court's decision. However, the damage from the directive has been done as the committees have already been stacked with pro-industry scientists. Rebalancing committee membership must be a high priority. Procedures for committee selection should be reviewed and modified to ensure that future committee selections are focused on ensuring the highest-quality reviews in all future administrations.

In addition to skewing the composition of federal advisory committees, EPA disbanded some committees. The Particulate Matter Review Panel, a subcommittee under the Clean Air Act Scientific Advisory Committee (CASAC), was disbanded in 2018. As a result, CASAC did not have the expertise to review the new data on health effects relating to standards for fine particulate matter (PM_{2.5}). The Ozone Panel met a similar fate. The instatement of such panels is further complicated by Executive Order 13875, "Evaluating and Improving the Utility of Federal Advisory Committees," signed by President Trump on June 14, 2019. The executive order intends to reduce by one-third the number of federal advisory committees. EPA's unilateral action, in conjunction with the order, will reduce the scientific input to EPA's regulatory decisionmaking. Both of these actions must be corrected swiftly.

Priority 3: Strengthen Scientific Integrity

From its earliest days, the Trump administration has interfered with science for apparently political reasons. Examples include the removal of references to climate change from EPA websites, leaving “legacy” uses out of an asbestos risk evaluation, *altering a risk assessment to remove evidence that the solvent trichloroethylene damages fetal hearts*, preventing scientists from attending conferences and presenting their papers, and routing questions from the press and agency communications through political filters. Putting political values above science at EPA has been most apparent in regulatory decisions the agency has made (see Priority 4 below). The administration should ensure that EPA strengthens its culture of scientific integrity. It can do this by calling on EPA to update its scientific integrity policy to strengthen crucial provisions protecting EPA science from political interference and censorship, and to continue and improve the training it provides its employees about scientific integrity. The administration should also ensure that EPA scientists have the right to communicate the results of their research to each other, to the public, and to the media.

Priority 4: Address Rollback of Regulations

The *New York Times* reports that the Trump administration is ignoring science and public comments in attempting to roll back 100 environmental regulations. Rescinding many of these unwarranted rollbacks and issuing regulations where the Trump administration has refused to act must be among the top priorities for the agency. EPA must undertake a complete review of the actions taken and refused over the past four years and, for those actions found to be contradictory to scientific evidence or norms, set priorities to move forward based on their adverse impact on human health and the environment. Agency staff should be consulted in the process of setting these priorities; however, the following actions should rank at the top of the list.¹

Mercury and Air Toxics Standards. EPA reversed the finding that it is necessary and appropriate to regulate emissions of toxic air pollutants. This finding is the legal predicate for the Mercury and Air Toxics Standards (MATS) (85 FR 20838), the highly successful Obama-era regulation of mercury and other toxic pollutants from coal-fired power plants. Mercury, which is best known as a developmental neurotoxicant, damages several organ systems. Although the Trump administration left MATS in place, reversing the

finding invites legal challenges to MATS. This action is also significant because, in an attempt to justify this action, EPA made an unwarranted change to the way it computes health benefits. EPA says that the only benefits that can be counted are those that are directly attributable to decreases in the pollutant being targeted by the regulation. Because EPA only calculated the benefits of reducing mercury but did not calculate the collateral benefit of reducing particulate pollution, the cost of the regulation appears to be greater than the benefit of reducing mercury. However, if the collateral benefits are considered, which had been the EPA practice until this action, the benefits of the rule greatly exceed the costs even without counting most of the mercury benefits. This approach of ignoring collateral benefits is contrary to reason and the public interest. The approach and the EPA finding must be overturned.

National Ambient Air Quality Standard (NAAQS) for particulates. As noted above, when EPA disbanded the panel on particulate matter, *an independent panel* made up of nearly every former member of the disbanded panel reviewed data pertaining to the adequacy of the existing standards. Despite a science-based finding that the current suite of primary fine particulate matter (PM_{2.5}) annual and 24-hour standards are not sufficiently protective of public health, EPA has refused to take action to lower the standard. The administration should heed the independent panel’s science-based finding and take action to adopt the more stringent standards.

Waters of the United States (WOTUS) rule. Published in 2015, the WOTUS rule sought to clarify which waters and wetlands fall under federal jurisdiction and thus are subject to the Clean Water Act. This definition was adopted to ensure that wetlands and tributaries did not pollute the bodies of water into which they drained. In September 2019, EPA promulgated a rule repealing the 2015 rule and in April 2020, the agency promulgated a new definition of waters of the United States that removed federal jurisdiction from at least half of the wetlands in the country and about 20 percent of the streams, leaving the bodies of water into which they drain more vulnerable to pollution. The impact was even greater in the arid West, where as many as 90 percent of streams lost federal water quality protections. The 2015 definition should be reinstated.

Chlorpyrifos. The pesticide *chlorpyrifos* is acutely toxic and associated with neurodevelopmental harms in children. Prenatal exposures to chlorpyrifos are associated with lower birth weight, reduced IQ, loss of working memory, attention disorders, and delayed motor development. Acute

poisoning suppresses the enzyme that regulates nerve impulses in the body and can cause convulsions, respiratory paralysis, and, in extreme cases, death. It also has adverse effects on wildlife. Chlorpyrifos is one of the pesticides most often linked to pesticide poisonings. For half a century, staple food crops in the United States—such as apples, citrus, corn, and wheat—have been sprayed with chlorpyrifos. EPA was expected to make a decision in 2017 to ban all uses of chlorpyrifos. But two days before the court-ordered deadline, then-EPA Administrator Pruitt reversed the agency’s proposal and refused to ban the pesticide. Under the Food Quality Protection Act, EPA can register a pesticide for use on food crops only if it can make a finding of “a reasonable certainty of no harm.” That standard is not met for chlorpyrifos. Chlorpyrifos should be banned.

Methylene chloride. Methylene chloride, commonly used in paint strippers, is highly neurotoxic, acutely lethal, and carcinogenic. There have been more than 50 reported deaths from acute exposure to the chemical. Many more likely have gone unreported. During the Obama administration, EPA worked, under the auspices of the Toxic Substances Control Act (TSCA) as amended by the Lautenberg Act, to assemble a record to support the need for a ban on most commercial and consumer uses of methylene chloride. Despite this overwhelming scientific evidence, the Trump EPA chose to finalize the ban on consumer uses only, relying on ineffective requirements for labeling, protective equipment, and training to protect workers’ health. This failure was part of a more comprehensive undermining of worker protections under TSCA. EPA should follow the evidence and ban commercial, as well as consumer, uses of methylene chloride.

Greenhouse gas (GHG) emissions standards for cars. The transportation sector is the largest contributor to US GHG emissions, narrowly edging out the electricity generation sector. The GHG emissions standards enacted during the Obama administration were the biggest single effort to address climate change in the United States. Yet the Trump administration rolled back the standards for cars to mandate fuel efficiency of just 40 miles per gallon (mpg) by 2025 rather than the 54 mpg mandated by the Obama administration. As the Trump administration acknowledges, this rollback will increase GHG emissions by about 900 million metric tons and gasoline consumption by about 80 billion gallons. The administration also admits that the rollback will increase net costs to society (i.e., the rollback costs exceed its benefits). This rollback is completely at odds with both climate science and automotive technology. It will largely benefit the oil and gas industry through higher gasoline costs for consumers, and

roughly half of the auto industry has opposed the rollback since many auto manufacturers have already invested in the technology to meet the more stringent standards. Given that climate change and air quality pose major challenges, the agency should set GHG standards to achieve electrification of on-highway vehicles, maintaining the model year 2022–2026 Obama GHG standards to the extent possible.

Clean Power Plan (CPP). Under the Paris climate agreement, the United States promised to lower the nation’s GHG emissions 26 to 28 percent below 2005 levels by 2025. Because power plants account for roughly one-third of US emissions, the **CPP** was seen as a crucial part of that strategy. The plan would have established national carbon emissions performance rates for coal and natural gas power plants while giving individual states some flexibility in finding ways to meet those standards. It would have reduced carbon pollution from the power sector by 32 percent and emissions of sulfur dioxide by 90 percent and nitrogen oxides by 72 percent below 2005 levels in 2030. The rule never took effect, however, as it was stayed as a result of court challenges contending that the rule exceeded EPA’s authority under the Clean Air Act, and was later replaced by the Affordable Clean Energy (ACE) rule. The ACE rule, which presents a narrow view of EPA’s regulatory authority, is designed to help extend the lifetimes of expensive and heavily polluting coal-fired power plants. A **study** published in *Environmental Research Letters* in April 2019 estimated that the ACE rule would lead to a negligible reduction in GHG emissions compared with a “no policy” scenario. An **analysis** by NRDC estimates that, given falling costs for clean energy, a stronger rule than the CPP could cut power-sector carbon pollution 60 percent below 2005 levels by 2030, and do so at a lower cost than the initial estimated costs of the CPP. If still under review, the ACE case should be stayed, EPA should stop defending the ACE rule, and the agency should evaluate the possibility of a more ambitious regulation than the CPP.

Priority 5: Enhance Staffing and Resources

Looking ahead, EPA must address a whole new horizon of health and environmental threats, including worsening climate change impacts and the prospect of new pandemics. Meanwhile, the agency must face partially addressed threats that are growing more serious, and reckon with past and ongoing environmental injustice issues exemplified by low-income communities and people of color who are struggling with cumulative exposures to toxic pollution. Unfortunately, EPA has been

substantially hollowed out from inadequate resources and battered staff morale. Employees have been demoralized by the administration's attitude toward the mission of the agency and government workers in general. Instead of protecting human health and the environment, many have been called on to roll back decades of work. In addition, there is concern that the *new labor contract*, imposed by the administration, makes it easier to place employees on a performance improvement plan and subsequently fire them, risking a chilling effect on employees wishing to speak up about violations of scientific integrity.

EPA resources have long been inadequate and have been dangerously declining. Under President Ronald Reagan, EPA's budget was 40–60 percent larger than it is today in inflation-adjusted dollars. The agency's staff was 30 percent larger under President Bill Clinton in 1999 than today's EPA, which has far more congressionally mandated environmental responsibilities. In recent years, drastic cuts have been proposed to EPA's diminishing resources that would further diminish the capacity of the federal government, states, tribes, and localities to protect public health and the environment. EPA should also restore collective bargaining rights to EPA employees.

EPA needs a budget that is in line with its responsibilities in the second decade of the 21st century. It also needs to recruit several thousand new staff members, including scientists in

program and regional offices and ORD, while bolstering the diversity of EPA's science experts. Given the beating EPA has taken in recent years and the prevalence of disparaging attitudes in some quarters toward government work and government workers in general, recruiting top talent may be difficult (although it may be helped by the recessionary economy as other options dry up). Still, successful recruiting and retention will require a change in the organizational climate and policy direction at the agency so that the notion of working at EPA once again appeals to people who want to use their knowledge and abilities to serve the public. EPA's fellowship, internship, and grantee programs have been effective at training and recruiting scientists for the agency. These programs should be fully supported and an emphasis should be placed on recruiting people of color into these programs.

What cannot be replaced is the historic knowledge that left with the exodus of workers and retirees in recent years. EPN—with its membership of 500 former EPA employees—can help. EPA officials should not hesitate to contact EPN.

Endnote

1. More information is available at EPN's website on *MATS*, *NAAQS*, *WOTUS*, *methylene chloride*, and *vehicle greenhouse gas emissions standards*.

ENDORSED BY

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