

Preserving Scientific Integrity in Federal Policymaking

*Lessons from the Past Two Administrations and
What's at Stake under the Trump Administration*
www.ucsusa.org/preservingscientificintegrity

Appendix A: Specific Recommendations for
Advancing Scientific Integrity in Federal
Decisionmaking in the Trump Administration

© January 2017
All rights reserved



1. Creating a Culture of Scientific Integrity

While scientific information is not the only input into decision making at federal agencies, decisions should be fully informed by the best available science. Federal scientists and researchers need certain protections to fulfill their responsibility to the US public. A strong culture of scientific integrity within federal agencies creates more resiliency to political interference in science. Elements of such a culture include not only the creation and implementation of strong scientific integrity policies and principles, but also consistent practices across and within agencies as well as a strong commitment to investing in scientific integrity standards by government leadership. The next administration should make clear that scientific integrity will be a priority and work with agencies to bolster their policies and practices in order to ensure they support a strong agency role for science. They must affirm that scientists who report losses of scientific integrity are protected from retaliation.

- **The president should appoint an assistant director within the White House OSTP to coordinate and oversee policies and procedures for ensuring that federal actions are informed by the best available science without undue political influence.** Because the OSTP is charged with overseeing a broad range of issues, a dedicated assistant director is needed to focus on scientific integrity in federal decision making. With the assistant director's guidance, the OSTP should do the following:
 - Work to bolster a culture of scientific integrity throughout the government to ensure consistent compliance with and improvement of scientific integrity policies.
 - Work with individual agencies to improve their scientific integrity policies on paper and in practice.
 - Encourage agencies to conduct scientific integrity trainings for all federal employees who use science to any significant degree in their jobs and play a coordinating role across agencies.
 - Work to mitigate and correct agency actions that do not follow appropriate processes when addressing allegations of scientific misconduct, censorship, or retaliation.
 - Publicly release an annual report on the state of scientific integrity within the federal government.

- Facilitate the regular convening of an interagency working group on scientific integrity to share resources and strengthen and unify scientific integrity efforts across the government.

- **The president should issue a memorandum directing agency heads to bolster their efforts promoting scientific integrity and science-based decision making.** The memorandum should include the following provisions:
 - Agency heads should impress upon employees that scientific integrity is crucial to achieving their missions and ensure access to trainings and information about agency scientific integrity policies.
 - Agency heads should appoint or assign an official in charge of scientific integrity who will report to the highest-ranking civil servant at the agency and work with the OSTP on cross-government issues, such as open-data initiatives and implementation of scientific integrity policies. Monitoring and supporting scientific integrity should occupy a significant portion of the official's time.
 - Scientific integrity officials should report out annually and publicly the status of allegations and investigations relating to violations of the agency's scientific integrity policy while keeping confidential the names of those involved where appropriate. These reports should be similar to the closed-case database maintained by the DOI (DOI 2016).
 - Agency heads should review and as needed improve existing scientific integrity policies to ensure they include the following key provisions:
 - A declaration of scientists' right to review content to be released publicly in their names or that significantly relies on their work
 - A declaration of scientists' right to publicly express personal views without seeking permission, provided they make clear they are speaking in a personal capacity and let their public affairs offices know as soon as possible after interviews or other media interactions

- A provision explicitly prohibiting retaliation against those who raise scientific integrity concerns or raise differing scientific opinions
- A clear and detailed policy and procedure for addressing differing scientific opinions within the agency
- A clear and detailed policy and procedure for addressing scientific integrity violation allegations and publicly reporting their resolution
- A declaration that employees who leave federal service should not be required to sign nondisclosure agreements that restrict disclosure of government information that is neither classified nor proprietary nor contains confidential personal matters
- A declaration that agency internal review is not required for scientific work done on employees' personal time and that does not use nonpublic government data. This policy should hold even if employees identify their employer for professional identification purposes, provided the work includes a disclaimer that it represents personal views.
- The creation of clearance procedures that are clear, consistent, transparent, and predictable. They should include an establishment of reasonable time limits for review and clearance of scientific publications, presentations, and participation in scientific conferences. The supervisor and other reviewing official should provide to the author written clearance, on the condition of specified changes being made, no later than 30 days after submission. If this deadline is not met, the author is allowed to submit the article for publication or presentation with an appropriate disclaimer stating that the article does not represent agency views or policies.

In 2012, the WPEA was signed into law. The law strengthened whistle-blower protections across the government and explicitly protects scientists who report waste, fraud, or abuse. However, the law has not adequately addressed incidents of retaliation against employees who report such abuses, and it

excludes full protections for certain federal employees, including those whose jobs are classified as sensitive and those in the intelligence community, military service, and contractor workforces.

- **The president and Congress should work together to maintain a commitment to protecting whistle-blowers and preventing retaliation for making allegations related to agency scientific integrity policies.**
 - Congress should expand the WPEA by
 - Adding protection for federal employees against retaliatory investigations.
 - Granting whistle-blowers who report scientific integrity violations in the civil service system access to district court with jury trials.
 - Suspending sensitive job classifications until due process rights are restored for employees in such positions to curb the chilling effect on whistle-blowers resulting from the sweeping use of such designations (Devine 2013).
 - Expanding the coverage of protections in section 110 of the WPEA to scientists in the intelligence community, military service, and government contractor workforces (Devine 2016; McCullough 2016).
 - The science advisor to the president should direct agency heads to communicate to all agency employees
 - the heads' personal commitment to scientific integrity and the protection of whistle-blowers
 - encouragement to report losses of scientific integrity
 - Information about anticensorship and antiretaliation rights under federal laws.
 - The science advisor should encourage agencies to complete the Office of Special Counsel 2302(c) Certification Program to ensure compliance with the WPEA.
- **The president should veto any legislation that interferes with science-based rulemaking or weakens the ability of agencies to ensure that independent science informs decision making.** Such past legislative proposals have included the Secret Science Reform Act of 2015 and the EPA SAB Reform Act of 2015.

- **Members of Congress should use their position to protect and advance the role of science in decision making at federal agencies in the following ways:**
 - Request a GAO report on the effectiveness of agency scientific integrity policies, to include recommendations for enhancement or strengthening.
 - Request the NAS to conduct a study on scientific integrity in government decision making across federal agencies, to include agency-specific recommendations for its advancement.
 - Use confirmation and budget hearings as opportunities to obtain commitments to strong scientific integrity and transparency standards from nominees and political appointees to federal agencies, including the OIRA and OMB administrator nominees.
 - Explore—for example, through hearings or a request for a GAO report—the impact of government employee travel restrictions. In order to do their best work, government scientists need the opportunity to participate in the scientific community, but recent budget restrictions have limited travel opportunities for many government scientists. Qualitative evidence from scientist surveys suggests that such restrictions may have had unintended adverse effects on the ability of government scientists to do their best work and to stay up to date in their fields (Goldman et al. 2015b).

2. Promoting Independent Science

Reliance on scientific information is critical to creating the best possible government policies. Yet, nearly all routes by which science informs policy have been vulnerable to politicization and interference. Strong reforms are needed to ensure that the best scientific information is readily available to federal agencies, Congress, and the president. The science informing federal decisions must be robust, independent, and credible.

Further, it is crucial that science-based policies remain free from undue influence throughout the regulatory and policy-making process. As a bill becomes a law and as a notice of proposed rulemaking becomes a final agency rule, they are vulnerable to inappropriate interference in the science informing them. Public policies change shape as they make their way through the checks and balances of federal

decision making; however, the science informing those decisions should not be altered for political purposes.

- **The president should ensure that all federal officials, including the president, have access to the best scientific advice from the very start of the new administration.** A priority is providing the president with independent and high-quality scientific advice, as such advice is crucial to making informed policy decisions that will advance the nation’s health, prosperity, and security.
 - **The president should appoint a widely respected scientist to the position of science advisor to the president and nominate the same person to be director of the OSTP.** Filling this position should be a top priority, and the administration should work with the Senate to confirm the science advisor quickly (NAS 2008). Because science and technology issues are so closely intertwined with other national priorities, the science advisor should report directly to the president and have consistent and direct access to the president and cabinet members.
 - **PCAST should stay abreast of and provide recommendations regarding the administration’s progress on scientific integrity on an ongoing basis.** PCAST engagement on this issue provides an important opportunity for the president to hear from prominent external scientists and for those scientists to seek input on scientific integrity from agencies and the public.
- **Congress should request a GAO report assessing how resource constraints and reduced or eliminated funding for monitoring and enforcement within agencies—which face an increased number of mandates—undermine science-based decision making.** The report should address agency reliance on states and private sector entities for data and other resources and capacity constraints that limit enforcement of agency mandates and rules.
- **The OSTP should direct agencies to develop clear guidance for use of peer review on scientific assessments and ensure that the guidance is consistently applied.** Such guidance should include:

- An affirmation that scientific peer review is the appropriate standard for ensuring the quality of agency scientific information
 - A requirement that any persons involved in peer review—including reviewers, agency staff administering the peer review process, and any government contractors involved—disclose financial ties to corporations potentially affected by the review. Agencies should consider all such disclosures and avoid conflicts to the greatest extent possible.
 - A requirement that scientists involved in peer review of agency scientific documents be technically qualified. Agencies should also use at least one peer reviewer external to the agency whenever possible.
 - A requirement that comments by peer reviewers on scientific documents and agencies' responses to comments be made public, although the anonymity of reviewers can remain protected
- **Agencies should ensure that when scientific research and peer review processes are being handled by outside contractors, all scientific input is of high quality and follows principles of scientific integrity.**
 - **The president should work with Congress and agencies to reform and strengthen the federal scientific advisory committee system by taking the following actions:**
 - **Directing agencies to enact policy that grants federal advisory committee members the freedom to communicate to the public regarding issues in their area of expertise, so long as they do not violate the deliberative process.** Agencies should affirm this right to committee members at the time of their appointment.
 - **Directing the GSA to issue guidance to agencies on how to make advisory committee membership and the process for selecting members more transparent through:**
 - Public announcement by agencies of their intent to form a new scientific advisory committee or to select new members for an existing committee
 - Solicitation of stakeholder input on the charter of the committee

- Concrete steps to ensure that inappropriate criteria such as party affiliation and political opinions are never part of the process for selecting members of scientific committees. Agencies should select members of advisory committees based solely on their experience and technical qualifications in the topic the committees will address.
 - Publication of criteria for selecting committee members and solicitation of nominations for committee membership, including a clear prohibition of veto power by current committee members over new member candidates. After selection of the first round of candidates, agencies should make the roster public and request comments regarding the candidates' potential conflicts of interest or other disqualifying information before finalizing committee membership.
 - Identification of the process used for committee formation, including how agencies screen members and how they assess committees for balance
 - Statements in appointment letters clarifying whether committee members will speak in their personal capacity as experts and will act as special government employees or will act as representatives of a specific stakeholder group
 - Easily available publication of basic information on committee members. This information should describe each member's qualifications and background, disclose past employers and funding sources for the previous five years, and include any conflict of interest waivers granted. This information should be made available on a public online portal, such as *integrity.gov*.
 - Public reporting of individual committee members' votes for or against recommendations when the committee does not come to consensus.
- **Congress should enact legislation to close loopholes in FACA.** The legislation should extend FACA rules to advisory committees organized by federal contractors, not just committees convened directly by an agency. Representatives and nonvoting members who regularly attend meetings should be asked to provide information on affiliation and any conflicts of interest.

- **The president should instruct the OGE to provide clear guidelines for conflicts of interest on federal advisory committees.**
 - Agencies should clarify their criteria for appointing advisory committee members as SGEs or as “representatives” and ensure that the proper level of scrutiny of conflicts of interest occurs (GAO 2004b). SGEs are subject to greater scrutiny than representatives, who are assumed to be stakeholders with special interests.
 - The OGE should work with agencies to define explicitly what constitutes a conflict of interest and establish transparent guidelines about the degree to which a conflict of interest would disqualify nominees from participating in a committee.
 - For committees whose mission is purely to provide objective scientific advice (as opposed to committees designed to gather input from stakeholders), committee members should be appointed as SGEs and should be free of financial conflicts of interest—both personal and for their employer (IARC 2006).
 - Scientists who have taken public positions on issues or received government funding for scientific work should not be excluded from advisory committees because of concerns about bias. Having a point of view on policy or having received federal research funding does not preclude an objective assessment of the scientific information presented to a committee. Further, a scientist’s membership in a scientific association should not be considered evidence of bias, even if that association has a stated policy agenda.

- **Agencies should track the work of their scientific advisory committees and respond to their findings and recommendations.** Agencies should clearly state what product they require of each advisory committee and set a timeline and work plan for creating that product. Further, agencies should establish and enforce clear policies for how to incorporate committee findings and recommendations into agency decision making. And agencies should publicly document any decision to overrule the recommendations of a scientific advisory committee and provide an explanation of the decision.

- **Congress should explore ways to bolster the scientific information it receives and how this information can play a strong role in promoting science-based decision making.**
 - **Congress should explore ways to strengthen the use and quality of independent scientific advice it receives through existing structures such as the Congressional Research Service and the GAO.**
 - **Congress should amend the PRA.** Reforms to the PRA should eliminate mandated yearly reductions in paperwork “burden,” which have reduced the ability of agencies to conduct surveys and collect data; should increase transparency in the information collection approval process; and should return more authority to federal agencies so that they may collect information needed to evaluate programs, identify regulatory gaps, and otherwise pursue their mission.
 - **Congress should monitor executive orders and signing statements, which are issued upon signing a bill, that explain the president’s interpretation of the law.**

Agencies should have sufficient autonomy to implement science-informed policies without inappropriate interference from Congress and the White House. Federal agencies exist to implement and enforce US laws because specialization in certain areas is necessary. Each agency has developed the expertise, experience, processes, and policies needed to pursue its mission and fulfill its particular statutory duties. The regulatory process should take advantage of and give primacy to the reservoir of scientific and technical knowledge that exists in the agencies.

- **The president should ensure that the OMB does not interfere in the scientific work of agencies.** The OMB plays an important role in coordinating and overseeing the process of crafting regulations. However, the OMB should not seek to replicate or override the scientific expertise of the agencies. The OMB should respect the scientific and technical expertise of the regulatory agencies and refrain from participating in purely scientific determinations beyond transparent interagency coordination. Specifically, the president should make the OMB more transparent and accountable by making interagency review comments public during the notice and comment period of federal rulemaking.

- **The next administration should issue an executive order that reorients the OIRA regulatory review process so that agencies' statutory standards, and not an OIRA-defined economic test, are the criteria for review.** The order should affirm that OIRA's review of agency-conducted economic analyses is in line with statutory standards.
 - The president should guide OIRA to limit its regulatory review to 90 days and allow for a one-time 30-day extension from the rulemaking agency, in accordance with Executive Order 12866. If OIRA cannot complete the review within 90 or 120 days, it should waive review or return the rule to the agency along with a letter explaining its concerns (Copeland 2013).
 - OIRA review should be triggered only for economically significant rules so that the agency focuses its attention on the most costly rules and therefore reduces regulatory delay. This change would prohibit OIRA review of smaller, politically charged rules, as well as guidance documents, scientific determinations, and regulatory proposals that have not yet entered the public input process. Additionally, OIRA review should not interfere with the expert agency's scientific analyses and risk assessments and should instead focus solely on matters of economic methodology and overlap with other agencies' rules (Driesen 2016).
 - In cases where cost-benefit analyses are required by statute, the president should direct OIRA to ensure such cost-benefit analyses consider the uncertainties associated with costs, taking into account decreases in cost over time due to economies of scale and advances in technology. The analyses should also quantify the full spectrum of expected benefits of any rule.
 - The president should direct OIRA to improve transparency of its review process. For example, OIRA should make available online a statement on OIRA's suggested changes for each rule, a list of changes made by the agency with justifications, and whether and why the issue has been elevated to the White House. Ultimately, OIRA should also make available online a list of substantive changes to rules after OIRA review. Return letters sent by OIRA for rejected rules should also be publicly available (Glicksman et al. 2012).
 - The OIRA administrator should engage in an initiative to diversify the technical expertise of its staff in order to improve interactions with rulemaking agency staff and increase

understanding of the reasoning behind and the importance of science-based rules, with the understanding that OIRA respect the scientific expertise and primacy of the agencies during rulemaking. The primary role of OIRA in regard to the scientific basis of rules should be to coordinate between agencies, not overrule agency scientific consensus.

- **Congress should use confirmation hearings for OIRA and OMB administrators to get nominees on record as committed to improving OMB transparency and accountability.** Nominees should support measures such as providing public access to OMB revisions to agency draft rules and should pledge not to undermine the content and timely issuance of science-based rules.

Domestically, science-based policies have provided large public health and safety benefits to Americans. It is crucial that the next president ensure that the country's international policies also maintain the upmost scientific integrity. Otherwise, strong science-based regulations within the United States, such as food safety and commercial chemical policies, may be undermined by international agreements.

- **The president should not agree to any international trade deals that fail to include substantive, enforceable provisions that preserve current and future science-based health, safety, and environmental standards or that would permit corporations to bypass federal courts when contesting federal, state, or local laws or policies.** Any trade deals should also preserve the authority of the United States to develop stronger science-based public protections in the absence of international consensus. Furthermore, the administration should make a strong commitment to enforce the provisions within any trade deal.

3. Increasing Government Transparency

Public faith in government decisions and the ability of science to inform federal government decision making is threatened in no small part by decisions made behind closed doors. Opening up federal

science and decision making to public scrutiny is an important and inexpensive means of revealing and ending political interference in science and in how science informs policy decisions. The public needs greater access to federal science. Greater access could be achieved through better disclosure of regulatory decision making, wider use of IT, and more open communication channels so that agency scientists and researchers can share their expertise freely. An open government is the best safeguard against corruption and abuse of power and is a necessary ingredient of democracy.

- **The OSTP should direct agencies to continue to implement President Obama’s open data Executive Order 13642 by making datasets publicly available in a timely manner and with appropriate context to enhance public accessibility.**

- **Consistent with the FOIA Improvement Act of 2016, the president should affirm that the default position of the administration in regard to FOIA is the presumption of openness and proactive disclosure, and the president should facilitate such openness by:**
 - Instructing the attorney general to issue a memo on the implementation of FOIA that affirms the policy of broad disclosure of government records requested under FOIA.
 - Instructing the director of the OMB, in consultation with the attorney general and the OSTP, to ensure the operation of a consolidated online request portal (in accordance with the FOIA Improvement Act of 2016). In order to be an effective tool, the online portal should accept and track requests, permit tracking of requests shared between/among agencies, and facilitate proactive disclosure of documents and the posting of FOIA request responses online in a systematic and organized manner. Such a system could make the FOIA process more efficient by reducing duplication of requests and by providing comprehensive public access to FOIA information, including:
 - Online links to the text of FOIA requests and timely posting of electronic versions of responsive documents
 - A list (known as a Vaughn index) of all requested documents being withheld under FOIA and specific exemptions being applied
 - Clear information explaining users’ rights under the FOIA and the role of the OGIS in facilitating document releases

- Requiring commercial entities requesting FOIA exemptions to explain why scientific information they ask to be withheld qualifies as trade secrets or privileged commercial information in order to shift this burden of proof from the federal government to the commercial entity.

- **The administration should reform the classification process at federal agencies by establishing clear guidelines and a transparent appeal process.** Certain government information may merit classification for national security and other reasons. But classification of information not essential to national security can prevent flawed analyses from being reviewed and corrected and can unjustifiably impair the public’s ability to assess how science is used in decision making. The process by which information is labeled “classified” should be subject to independent oversight.
 - The president should ensure that the work of the Public Interest Declassification Board continues and instruct the Classification Reform Committee to report publicly on its work and make recommendations for major, substantive reforms that would meaningfully reduce secrecy (OTG 2014).
 - Agencies should establish safeguards to protect against overclassification. Safeguards should include independent oversight and declassification advisory boards, regular auditing of classification decisions, and a transparent appeals process.
 - The president should work with Congress to pass legislation that would lead to routine declassification of historically significant government information after a set period of time.
 - The president should ensure that the National Archives and Records Administration’s (NARA) proposed rule on Controlled Unclassified Information (CUI) is finalized and charge NARA with issuing implementing guidance, establishing phased implementation schedules, and publishing an enhanced CUI registry that designates what information falls under the program. Each agency should be required to publish a timeline for agency implementation of the rule, benchmarks for full implementation

within 180 days of the publication of the rule, and specific timelines for each of those benchmarks.

- **The administration should work with federal agencies to improve COI policies for government employees.**
 - Agencies should not allow employees with ties to financial interests that would directly benefit from policies on which they work to hold decision-making authority or to otherwise influence policy outcomes, although they may still contribute to related projects. Any COI waivers granted should stipulate the parameters of permitted participation and be publicly released before major decisions are made.
 - Federal employees should recuse themselves from policy decisions involving any party that was their employer or client during the previous two years, whether or not they have current financial ties to that party.

- **Agencies should facilitate the free flow of information between government scientists and the media by:**
 - Responding to journalists' requests for interviews and information within an appropriate amount of time. If agency public information officers deny interviews, they should inform the journalist of the reason for their decision.
 - Amending their media policies to remove preapproval as a required condition for interviews.
 - Allowing journalists to interview the relevant experts who are best able to answer their questions, rather than respond to inquiries with talking points or direct journalists to other employees.
 - Defining *reporter* in broad terms to allow freelance journalists and new media the same access offered to traditional media outlets.
 - Refraining from using embargoes that prevent journalists from seeking outside comment before the embargo is lifted (Bailin et al. 2015).

In its 2008 recommendations to the incoming Obama administration, UCS recommended that Congress appropriate sufficient funds for OGIS to act as the national FOIA ombudsman housed in NARA. OGIS has acted in this capacity for the past eight years; however, thus far, its statutorily narrow role has limited its effectiveness in facilitating the release of documents.

- **The president should issue an executive order directing agencies to allow OGIS to facilitate agencies' FOIA compliance.** Currently, OGIS plays only an advisory role. The executive order should give OGIS binding arbitration powers.
 - Agencies should update their system of records notices to include routine use that allows OGIS enough access to records to carry out its mediation services and agency assessment effectively. Agencies can refer to the model routine use that OGIS developed with the Justice Department (NARA 2013).
 - Agencies should change their regulations to clarify that they “shall” work with OGIS on FOIA compliance.
 - NARA should expand the role of OGIS to include implementation of the Obama administration’s open data executive order, and Congress should appropriate funds accordingly.

4. Enhancing Public Participation

The United States was founded on the conviction that an informed citizenry, armed with evidence and reason, can make wise decisions that promote public health, safety, and well-being. Throughout our history, science has helped our nation deliver on that promise. Yet today, outdated information collection methods and unnecessary institutional barriers exclude many citizens from the democratic process. The next administration should leverage technology and innovation to make federal processes for gathering public input more diverse, inclusive, and participatory. In this increasingly noisy information landscape, it is more important now than ever for governments, scientists, and citizens to

engage together in our democratic processes to ensure that our policies are informed by the best available science.

- **The administration should work with federal agencies to improve the user-friendliness of rulemaking dockets to encourage increased public participation.**
 - The OMB should deploy the USDS to enhance *regulations.gov* in order to make it a consumer-oriented and user-friendly portal for information about proposed, pending, and final regulations. Improving the site's search and browsing functionality will help it reach its full potential.
 - Following the lead taken by OSHA in their silica rulemaking public comment period (OSHA 2013b), the president should issue an executive order directing federal agencies to request that public commenters who provide scientific or technical research in their comments during rulemaking disclose any funding source and/or sponsoring organization of the research.

- **The administration should implement changes to encourage diverse, widespread, and fair participation in the rulemaking process by incorporating the following reforms:**
 - Agencies should always provide an email address for submitting public comments during the notice and comment period for all proposed rules as an avenue for public participation additional to Web form submission on *regulations.gov*.
 - Agencies should provide a one-stop location on their homepages for all rulemaking open for comment (Coglianese 2011). Agencies should follow the example of the FWS, which embeds links on its homepage to the Federal Register and *regulations.gov*.
 - Agencies should harness the power of new media to solicit a greater number and diversity of perspectives in public comments on rulemaking, particularly from members of the public who might not otherwise know about rulemakings of interest (Farina et al. 2011).
 - Agencies should encourage participation in the rulemaking process by holding informational webinars and public information meetings outside regular working hours, especially for rules that significantly impact communities of concern.

- The president should ask the OSTP, OMB, and USDS to investigate ways to make the rulemaking process more accessible to the public and public interest groups via technology. Individual agencies should work with 18F, a GSA team that provides IT services to federal agencies, to innovate better methods for communicating information to the public and receiving feedback on proposed regulations. These updates should be coordinated with each other and with ongoing changes to *regulations.gov*.
 - The president should issue an executive order aimed at leveling the playing field among stakeholders regarding influence in the rulemaking process. The order should require agencies to post visitor logs online for all engagement of stakeholders on rules in development, both before and after the issuance of a proposed rule. To the greatest extent practicable, it should also require agencies to conduct outreach to a diverse set of stakeholders to inform them about public comment periods for rulemaking.
 - The president should provide guidance to agencies on standardizing the information they disclose about the development of a regulation on *regulations.gov*. When issuing a proposed rule, agencies should disclose differentiation and description of the primary scientific issues and the primary policy issues that need to be addressed and a statement of whether a rule is legally required to be based solely on science. When issuing a final rule, agencies should publish a description of the scientific basis for the rule for any regulatory decision informed by science.
- **The president should strengthen the environmental justice executive order, 12898, in two ways: (1) by issuing guidance stating that scientific analysis of justice and equity consequences of agency actions are mandatory for agencies developing significant rules, and (2) by requiring agencies to develop guidance on the consideration of justice and equity consequences during the development of regulatory actions.** Such guidance could be similar to the EPA's Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (EPA 2016).