



Use the resources from the Science and Policy student E-Sheet to answer the questions on this sheet.

Science and Policy E-Sheet

<http://sciencenetlinks.com/Esheet.cfm?DocID=209>

- AAAS Contributes to Woodrow Wilson Center Report Regarding Science Advice for the Next U.S President
http://www.aaas.org/news/releases/2008/0619science_advice.shtml
- Critical Upgrade
<http://wilsoncenter.org/news/docs/OSTP%20Paper1.pdf>

The leadership of the American Association for the Advancement of Science (AAAS) thinks “science is at a crossroads.” What does the phrase “at a crossroads” mean? Why is it of concern that American science is at a crossroads? Give examples of areas of American life that are based in scientific excellence.

A crossroads signifies a big change in direction where either gains or losses may be the outcome. In the 1800s, modern science was dominated by German, French, and English scientists and institutions. America emerged as a world leader in science early in the 20th century and continues to lead. A “wrong turn” at the crossroads in science would mean America has lost that leadership position, and as a result, is less able to improve lives and social conditions through science-based activities such as medical research, engineering innovation, agricultural food production, environmental stewardship, and energy abundance/efficiency/cleanliness.

In its press release, the AAAS leadership mentioned three social trends in particular that threaten the quality of American science. What are they, and why do they hold the potential to weaken science?

Since 2005, U.S. research funding has declined; there is a shortage of U.S.-trained scientists and engineers; science education is under assault by organized groups who want

to introduce moral, religious or political means of finding answers to scientific questions. Only scientific means, methods, and data—verified through repetition by others—can answer scientific questions.

What is the relationship between these three trends and the science priorities of the Obama administration?

These three trends are rooted in the group action of American citizens. Civic life is formally organized and governed in America by politics through democratically elected officials. Therefore, how science is taught in publicly-funded schools, or how public universities can investigate cells' biological ability to transform, can be affected by those in political power who make laws and allocate money.

What role does the White House Science and Technology Advisor play in all this? How much money is at stake?

It plays an enormous role, potentially. This Advisor influences political decisions that make rules about what topics can be researched, the means to be used, and the level of funding to support it. In 2008, \$142.8 billion of taxpayer money was invested in science and technology. For America to maintain scientific excellence, this office must be staffed by highly trained, accomplished scientists, who have an objective, evidence-based record of achievement recognized by peers and through publication in peer-reviewed mainstream scientific journals.

What are the three overarching recommendations made in the "Critical Upgrade" report to the next president?

- 1. The President should appoint a nationally respected leader to be Assistant for Science and Technology. This individual should serve at the cabinet level. The appointment should be made early in the new Administration, along with the appointments of heads of cabinet-level agencies.*
- 2. The White House Office of Science and Technology Policy must be funded adequately, staffed fully, and integrated closely with other policy-making bodies within the White House.*
- 3. Robust mechanisms to obtain advice must be established and maintained through the President's Council of Advisors for Science and Technology (PCAST), the President's Council on Innovation and Competitiveness, the National Science and Technology Council (NSTC), the National Academies, and a proposed new Federal-State Science and Technology Council.*