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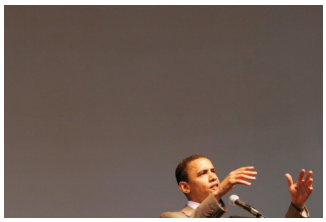

A NEW US PRESIDENT BRINGS A NEW ATTITUDE TOWARD SCIENCE

President Barack Obama promises to change George W. Bush's science policies, by bringing research and technology advisors back into the White House, and increasing support for basic research and technological development. But in the current economic climate, can he afford it?

By Chris Tachibana

On 20 January 2009, the United States inaugurated a new president. Congress, which makes policy and approves budgets, swore in dozens of new House members and Senators. Together they face a fragile economy, rising health care costs, an unstable climate, two wars, and an impending energy crisis. How do science, research and development fit into the new administration's agenda?

Money is the bottom-line, so to measure an administration's commitment to science, keep an eye on funding for the Department of Defense (DoD) and the National Institute of Health (NIH), which are the country's largest R&D granting agencies. Although NIH funding was healthy in the first years of the Bush administration, it has ultimately stagnated and declined through a combination of cuts and failures to adjust for inflation. From 2003 to 2008, funding for NIH fell 12.3%. In the past, as many as 1 in 3 applications for NIH grants were funded, but in 2007, this fell to below 1 in 5. In July 2008, the Senate Appropriations Committee proposed $5.2 billion in additional NIH funding to make up for inflationary losses, but in October 2008, Congress and President Bush responded to the economic crisis and upcoming elections by freezing the budget until March 2009, effectively killing the proposed increase.

The DoD has fared a bit better. Under its Defense Health program, the DoD provides grants for a fair number of national and international biomedical research projects, including funding for breast, ovarian and prostate cancer research that can be as high as 20% of NIH support for this area. Both the DoD and the NIH provide money for biodefense research, but DoD funds can be obtained through means outside the regular budget, such as Congressional war funding. The resolution that froze the budget in October 2008 made an exception for defense spending, and gave additional funds to the DoD Defense Health program. Nonetheless, in 2008, proposed R&D funding for the DoD fell for the first time in a decade.

A renewed commitment...

Based on the new President's campaign statements, the outlook for 2009 appears promising. Last summer, in response to a series of questions from the citizen's group ScienceDebate2008, and in a separately released policy paper, Obama pledged to double basic research funding over 10 years. He expressed support for increased research funding for the Center for Disease Control and DoD basic and applied research.

Of course, this was all before the 2008 economic crisis. Many analysts believe that Congress's approval of over $700 billion to rescue the financial industry, $25 billion or more for the plummeting US auto industry, and possible assistance to homeowners, could severely restrict spending in other areas. Immediately after the election in November 2008, Obama's policy proposals focused on large issues such as fixing the economy, and the wars in Iraq and Afghanistan. Specific science policies were not on the immediate agenda of the Obama transition team. Still, former Clinton science advisor Neal Lane says he expects Obama's advisors to argue that research is an investment whose yields will be in future innovations and the restoration of America's position as a science and technology leader. Obama himself, in his 2006 book "The Audacity of Hope", listed science and technology as one of the "investments that can make America more competitive in the global economy". In a sign of commitment to US research, versions of the new economic stimulus bill promoted by President Obama have contained as much as $1 billion in additional funding for the NIH. Paradoxically, the catastrophic financial situation may provide President Obama with the time and treasure he needs to fulfill his campaign promises, as experts push for government spending to move the paralyzed economy. Crafting and implementing a financial package will be the first task for President Obama and the new Congress, and will test their competence in carrying out their plans for the country.

In any case, there are some no-cost or low-cost science policies President Obama will enact immediately. The US restriction on using federal funds to generate new human embryonic stem cell lines was single-handedly decreed by President George W. Bush in 2001, by Executive Order. This kind of policy directive is reversed as easily as it is issued. The job of White House Science Advisor will be filled soon after President Obama's inauguration. Obama has long pledged to restore this position to the status it had under President Clinton, as a senior advisor with cabinet-level access to the President. President Obama wants to establish a Chief Technology Officer as a top advisor. Although this appears to be a position for an Internet business specialist (think Google or Amazon), the responsibilities include integration and sharing of best practices across all agencies, including those involved in technological development. The new President will almost certainly push to simplify and make permanent the research tax credit that provides an incentive for businesses to invest in R&D. This has existed in temporary form since 1982, but a reliable, permanent tax credit would be encouraging to startup biotech companies. On the other hand, the industry is worried about Obama's proposal to decrease health costs using measures that may be punishing to the pharmaceutical industry, like increasing the use of generic drugs and allowing the import of brand-name drugs sold at lower prices in other countries.

...and renewed respect

Less concrete, but more meaningful over the long term, and completely cost-free, is the new attitude President Obama brings towards science. In an offhand remark to a reporter, President Bush once said about evolution and alternative creation-based stories, that "both sides ought to be properly taught" in schools. In contrast, President Obama has said "it's a mistake to try to cloud the teaching of science with theories that frankly don't hold up to scientific inquiry". Last fall, a statement from 75 Nobel laureates openly criticized the Bush administration for distorting science for political purposes. President Obama appears to be committed to transparency and accuracy in his science policies, and has made efforts to gain the trust of the research community. Shortly after his election, Obama sent a letter to the US National Academies of Sciences, promising to work with, and solicit the advice of the science and engineering community. His September 2008 science policy report pledged to review and release scientific data in a way that is "not distorted by ideological biases". "Change" was the theme of the election, and indeed, the new President and Congress are expected to improve conditions for science. Given the current economic constraints, can the US really expect to expand R&D programs right now? President Obama would no doubt say, "Yes we can", to which the research community might reply, "We will see".