

A new approach for science

Barack Obama's victory in the US presidential election is good news for researchers.

In the United States, scientists tend to lean Democratic, and many will doubtless be cheering Barack Obama's victory over Senator John McCain on 4 November. Although science might not have been foremost in the minds of those who voted for him, Obama will probably be good for research.

First, in spite of America's deepening financial crisis, Obama has pledged to boost scientific funding significantly under his presidency. Like Roosevelt, Obama hopes to ameliorate the deepening recession by increasing spending on domestic programmes, including research and innovation¹.

The most likely boon for materials researchers will be a promised US\$15 billion annual investment in clean energy technology. That would be a formidable increase compared with the roughly US\$2 billion a year that is spent at present. Almost certainly, a significant fraction of the new money will go towards materials research in areas such as fuel and solar cells, energy storage technologies and energy efficiency.

Optimism, however, must be tempered because the money promised by Obama is far from assured. He hopes to raise the necessary dollars through a new carbon cap-and-trade system that would charge companies a fee for emitting greenhouse gases. Such a plan was impossible during the tenure of outgoing president George W. Bush, who had strong ties to the oil industry, and even some Democrats find it controversial—especially as American businesses struggle to survive the current economic climate. Even if such a measure passes, the Congress, which must ultimately write the legislation for Obama's initiative, may choose to distribute funds to other areas. Domestic programmes have been sorely neglected under the Bush administration, and science, which fared far better, may have to take a back seat to more pressing issues such as healthcare and education.



Obama has promised to fund research into clean technologies and listen to scientists' advice.

The new president is also likely to try to revive the 'America Competes Act', a proposal first promoted by President Bush to double funding over a decade for the National Science Foundation, the Department of Energy's Office of Science, and the 'core programmes' of the National Institute of Standards and Technology². The act has foundered in recent years because of tight fiscal constraints on the Congress, which enacts the annual budget for the government. But as Obama increases domestic spending, a roughly 7% annual increase to their collective US\$11 billion budget should be a modest and achievable goal.

Obama has also pledged to put the Pentagon's basic research on a path to doubling (on an uncertain timescale) and to "renew" the Defense Advanced Research Projects Agency (DARPA). These promises seem vaguer in part because Obama's main defence policy is focused on increasing manpower to support the

military's roles in Iraq and Afghanistan. In general that is likely to mean decreases for other programmes including technology development and research. It is perhaps unsurprising then that he seems unwilling to commit firmly to science funding until he has satisfied his other priorities.

It is worth pointing out that Bush was generous to the physical sciences during his eight years in office. Bush advocated increases for fundamental physics research, and his political appointments (including Raymond Orbach at the Department of Energy and Arden Bement at the National Science Foundation) have proven competent stewards of the research enterprise.

But Bush's support of science stopped at the door to the Oval Office. Bush repeatedly clashed with researchers on issues such as global warming, evolution and stem cell research. His administration was accused of ignoring scientific advice and distorting scientific evidence to support policy decisions.

That is where the greatest difference between Bush and Obama will probably be felt. In a 9 October letter to the US National Academy of Sciences, Obama said that policy decisions "must be guided by expert scientific evidence." He has pledged to give scientists a leadership role in his administration by elevating the role of Presidential Scientific Advisor to the position of cabinet-level aid. He has also promised to strengthen the President's Council of Advisors on Science and Technology and appoint appropriate individuals to leading scientific roles within his administration.

And that, ultimately, will be the greatest boon for researchers under an Obama presidency: not only will they be supported, they will be heard.

References

1. Witze, A. *Nature* **455**, 446–449 (2008).
2. *Nature Mater.* **6**, 917 (2007).