

1. Innovation. Science and technology have been responsible for half of the growth of the American economy since WWII. But several recent reports question America's continued leadership in these vital areas. What policies will you support to ensure that America remains the world leader in innovation?

I have a broad and cohesive vision for the future of American innovation. My policies will provide broad pools of capital, low taxes and incentives for research in America, a commitment to a skilled and educated workforce, and a dedication to opening markets around the globe. I am committed to streamlining burdensome regulations and effectively protecting American intellectual property in the United States and around the globe.

Transformative information and communications technologies permeate every aspect of our daily lives. In the last decade, there has been an explosion in the ways Americans communicate with family, friends, and business partners; shop and connect with global markets; educate themselves; become more engaged politically; and consume and even create entertainment. America has led the world into this technology revolution because we have enabled innovation to take root, grow, and prosper. Nurturing technology and innovation is essential for solving the critical problems facing our country: developing alternative fuels, addressing climate change, encouraging commercialization of new technologies, deploying technology to manage cost and enable new jobs, stopping the spiraling expense of health care, and better educating our children and our workforce.

I am uniquely qualified to lead our nation during this technological revolution. While in the Navy, I depended upon the technologies and information provided by our nation's scientists and engineers with during each mission. I am the former chairman of the Senate Committee on Commerce, Science and Transportation. The Committee plays a major role in the development of technology policy, specifically any legislation affecting communications services, the Internet, cable television and other technologies. Under my guiding hand, Congress developed a wireless spectrum policy that spurred the rapid rise of mobile phones and Wi-Fi technology that enables Americans to surf the web while sitting at a coffee shop, airport lounge, or public park.

Above all, my commitment to innovation is a commitment to the well-established entrepreneurial spirit and creativity of America's thinkers and tinkerers whose inventions have improved our lives and promoted prosperity. To maintain American leadership, I believe we must nurture the conditions under which entrepreneurs can continue to prosper by bringing new innovators to market and the American people can reap the rewards.

As President, I will ---

- Focus on addressing national needs to make the United States a leader in developing, deploying, and exporting new technologies;
- Utilize the nation's science and technology infrastructure to develop a framework for economic growth both domestically and globally;
- Appoint a Science and Technology Advisor within the White House to ensure that the role of science and technology in policies is fully recognized and leveraged, that policies will be based upon sound science, and that the scientific integrity of federal research is restored;
- Eliminate wasteful earmarks in order to allocate funds for science and technology investments;

- Fund basic and applied research in new and emerging fields such as nanotechnology and biotechnology, and in greater breakthroughs in information technology;
- Promote greater fiscal responsibility by improving the scientific and engineering management within the federal government;
- Encourage and facilitate commercialization of new innovations, especially those created from federally funded research;
- Ensure U.S. leadership in space by promoting an exploration agenda that will combine the discoveries of our unmanned probes with new technologies to take Americans to the Moon, Mars, and beyond;
- Grow public understanding and popularity of mathematics and science by reforming mathematics and science education in schools;
- Leverage technologies to create employment in rural areas and deploy the displaced workforce;
- Create greater transparency in government and encourage more citizens-government dialogs using current technology; and
- Develop and implement a global competitive agenda through a series of business roundtables with industry and academia leaders.

2. Climate Change. The Earth's climate is changing and there is concern about the potentially adverse effects of these changes on life on the planet. What is your position on the following measures that have been proposed to address global climate change—a cap-and-trade system, a carbon tax, increased fuel-economy standards, or research? Are there other policies you would support?

We know that greenhouse gas emissions, by retaining heat within the atmosphere, threaten disastrous changes in the climate. The same fossil-fuels that power our economic engine also produced greenhouse gases that retain heat and thus threaten to alter the global climate. No challenge of energy is to be taken lightly, and least of all, the need to avoid the consequences of global warming. The facts of global warming demand our urgent attention, especially in Washington. Good stewardship, prudence, and simple commonsense demand that we act to meet the challenge, and act quickly.

To dramatically reduce carbon emissions, I will institute a new cap-and-trade system that over time will change the dynamic of our energy economy. By the year 2012, we will seek a return to 2005 levels of emissions, by 2020, a return to 1990 levels, and so on until we have achieved at least a reduction of sixty percent below 1990 levels by the year 2050. In doing this, we will transition into a low carbon energy future while promoting the technological innovations that keep us on a course of economic growth. The purpose of this approach is to give American businesses new incentives and rewards to seek cheaper emission reductions, instead of just new taxes to pay and new regulations to follow. This approach gives people time to adapt, instead of causing a sudden jolt to electricity bills and potential shutdowns of tradition coal-fired plants.

I have long supported CAFE standards - the mileage requirements that automobile manufacturers' cars must meet. Some carmakers ignore these standards, pay a small financial penalty, and add it to the price of their cars. But I believe that the penalties for not following these standards must be effective enough to compel all carmakers to promote the development of fuel-efficient vehicles. I will strengthen the penalties for violating CAFE standards, and make certain they are effectively enforced.

To bolster research efforts, government must do more by opening new paths of invention and ingenuity. A McCain administration would establish a permanent research and development tax credit equal to ten percent of wages spent on R&D, to open the door to a new generation of environmental entrepreneurs. I am also committed to investing two billion dollars every year for the next 15 years on clean coal technologies, to unlock the potential of America's oldest and most abundant resource. And we will issue a Clean Car Challenge to automakers, in the form of a tax credit to the American people, for every automaker who can sell a zero-emission vehicle. We will commit up to a 5,000 dollar tax credit to each and every customer who buys that car. In the quest for alternatives to oil, our government has thrown around enough money subsidizing special interests and excusing failure. From now on, we will encourage heroic efforts in engineering, and we will reward the greatest success.

I further propose we inspire the ingenuity and resolve of the American people by offering a \$300 million prize for the development of a battery package that has the size, capacity, cost and power to leapfrog the commercially available plug-in hybrids or electric cars. This is one dollar for every man, woman and child in the U.S. -- a small price to pay for helping to break the back of our oil dependency -- and curb the dangerous effects of global climate change.

I will continue to support the US Global Change Research Program and ensure that the program's activities support the Nation's needs for climate related information to help it prepare for the future.

3. Energy. Many policymakers and scientists say energy security and sustainability are major problems facing the United States this century. What policies would you support to meet demand for energy while ensuring an economically and environmentally sustainable future?

Over time, I believe that we must reform our entire energy economy toward a sustainable mix of new and cleaner power sources that meet the multiple shared objective of promoting environmental, economic and national security. One of the prevailing issues of our time and the next presidency will be how to deal with the issues of energy security and sustainability. It is important that we shift to sustainable, clean burning energy sources or advance to technologies that make our more traditional resources cleaner burning.

As President, I will put the country on track to building 45 new reactors by 2030 so that we can meet our growing energy demand and reduce our emissions of greenhouse gases. Nuclear power is a proven, domestic, zero-emission source of energy and it is time to recommit to advancing our use of nuclear energy. The U.S. has not started construction on a new nuclear power plant in over 30 years. Currently, nuclear power provides 20 percent of our overall energy portfolio. Other countries such as China, India and Russia are looking to increase the role of nuclear power in their energy portfolio and the U.S. should not just look to maintain, but increase its own use.

In the progress of other alternative energy sources -- such as wind, solar, geothermal, tide, and hydroelectric -- government must be an ally but not an arbiter. In less than a generation, wind power alone could account for a fifth or more of all our electricity. And just in recent memory, solar energy

has gone from a novelty to a fast-growing industry. I've voted against the current patchwork of tax credits for renewable power because they were temporary, and often the result of who had the best lobbyist instead of who had the best ideas. But the objective itself was right and urgent. And when I'm signing laws, instead of casting one of a hundred votes, I intend to see that objective better served. We will reform this effort so that it is fair, rational, and permanent, letting the market decide which ideas can move us toward clean and renewable energy.

I will also commit the federal government to a prosperous clean technology agenda and to becoming the world leader in green technologies. Americans have always been the world's leaders in innovation, and it's time for our economy to adapt and take an active role in the new green international economy.

These investments by government into basic research along with aggressive and realistic targets for greenhouse gas emissions will be critical in spurring revolutionary innovations in energy that will, over the long term, reduce energy costs and increase economic growth.

4. Education. A comparison of 15-year-olds in 30 wealthy nations found that average science scores among U.S. students ranked 17th, while average U.S. math scores ranked 24th. What role do you think the federal government should play in preparing K-12 students for the science and technology driven 21st Century?

My Administration will promote economic policies that will spur economic growth and a focus on an innovative economy. Critical to these efforts is the creation of the best trained, best prepared workforce to drive this economy through the 21st century. America's ability to compete in the global market is dependent on the availability of a skilled workforce. Less than 20 percent of our undergraduate students obtaining degrees in math or science, and the number of computer science majors have fallen by half over the last eight years. America must address these trends in education and training if it hopes to compete successfully.

But I believe that education is an ongoing process. Thus our nation's education system should not only focus on graduating new students; we must also help re-train displaced workers as they prepare for the rapidly evolving economy. Invigorating our community college system is a good place to start. For example, recognizing this, I have long supported grants for educational instruction in digital and wireless technologies, targeted to minorities and low-income students who may not otherwise be exposed to these fields.

Beyond the basics of enabling every student to reach their potential, our country is faced with a critical shortage of students with specific skills fundamental to our ability to compete globally.

The diminishing number of science, technology, engineering and math graduates at the college level poses a fundamental and immediate threat to American competitiveness.

We must fill the pipeline to our colleges and universities with students prepared for the rigors of advanced engineering, math, science and technology degrees.

We must move aggressively to provide opportunities from elementary school on, for students to explore the sciences through laboratory experimentation, science fairs and competitions.

We must bring private corporations more directly into the process, leveraging their creativity, and experience to identify and maximize the potential of students who are interested and have the unique potential to excel in math and science.

We must strengthen skills of existing science and math teachers through training and education, through professional development programs and community colleges. I believe we must provide funding for needed professional teacher development. Where federal funds are involved, teacher development money should be used to enhance the ability of teachers to perform in today's technology driven environment. We need to provide teachers with high quality professional development opportunities with a primary focus on instructional strategies that address the academic needs of their students. The first 35 percent of Title II funding would be directed to the school level so principals and teachers could focus these resources on the specific needs of their schools.

I will devote 60 percent of Title II funding for incentive bonuses for high performing teachers to locate in the most challenging educational settings, for teachers to teach subjects like math and science, and for teachers who demonstrate student improvement. Payments will be made directly to teachers. Funds should also be devoted to provide performance bonuses to teachers who raise student achievement and enhance the school-wide learning environment. Principals may also consider other issues in addition to test scores such as peer evaluations, student subgroup improvements, or being removed from the state's "in need of improvement" list.

I will allocate \$250 million through a competitive grant program to support states that commit to expanding online education opportunities. States can use these funds to build virtual math and science academies to help expand the availability of AP Math, Science, and Computer Sciences courses, online tutoring support for students in traditional schools, and foreign language courses.

I will also continue to support STEM education programs at NSF, DOE, NASA, and NOAA. These scientific agencies can and should play a key role in the education of its future engineers and scientists. These agencies have the

opportunity to add a practical component to the theoretical aspects of the students' educational process.

5. National Security. Science and technology are at the core of national security like never before. What is your view of how science and technology can best be used to ensure national security and where should we put our focus?

I have been a tireless advocate of our military and ensuring that our forces are properly postured, funded, and ready to meet the nation's obligations both at home and abroad. I have fought to modernize our forces, to ensure that America maintains and expands its technological edge against any potential adversary, and to see that our forces are capable and ready to undertake the variety of missions necessary to meet national security objectives.

As President, I will strengthen the military, shore up our alliances, and ensure that the nation is capable of protecting the homeland, deterring potential military challenges, responding to any crisis that endangers American security, and prevailing in any conflict we are forced to fight.

We are benefiting today from technology that was invented for military use a quarter of a century ago (e.g. the Internet, email, GPS, Teflon). And today, the American military has some of the most advanced technologies in the world to support them as they defend America's interest. We need to ensure that America retains the edge in the most strategic areas and **I will continue to encourage this with advanced R&D research funding.**

6. Pandemics and Biosecurity. Some estimates suggest that if H5N1 Avian Flu becomes a pandemic it could kill more than 300 million people. In an era of constant and rapid international travel, what steps should the United States take to protect our population from global pandemics or deliberate biological attacks?

It is impossible to know whether the H5N1 virus will cause a human pandemic. The widespread nature of H5N1 in birds, the high mortality rates in exposed humans, and the likelihood of mutations over time have illustrated, however, the potentially catastrophic consequences that could arise from a pandemic, whether it arises from the current H5N1 strain or a different strain of the virus. That awareness requires the international community, the federal government, state and local governments, the health care industry, research community and the business community to develop and implement strategies to address this threat. The positive news is that such efforts are underway. They need continued development and attention, however, because by their very nature pandemics have the potential to overwhelm society's response capabilities.

There are many common elements to the strategies needed to address pandemics and biological attacks; however, elements of the strategies differ, because we must focus more on containment and response with respect to the former, and prevention and early detection with respect to the latter.

When faced with a global pandemic, the United States must have in place and implement a layered strategy to save lives and protect the continuity of a functioning society. First, we must limit the spread of disease to the United States. Second, we must limit the spread of disease within the United States. This must be accomplished at the community level with strategies that have worked in past pandemics and can be adapted to a current crisis. Third, we must mitigate symptoms of the disease and minimize suffering and death with effective treatments and countermeasures. And fourth, we must maintain a functioning economy, public service sector and community.

The strategy requires a focus on: preparedness (the activities that should be undertaken before a pandemic to ensure preparedness); communication (the roles and responsibilities of all levels of government and segments of society); surveillance and detection (both domestic and international systems that provide continuous situational awareness to ensure the earliest warning possible to protect the population); and response and containment (actions to limit the spread of the outbreak and to mitigate the health, social and economic impacts of a pandemic).

Similar response capabilities would be necessary if a deliberate biological attack were to occur; but the best defense is deterring the attack from the outset. We must focus on efforts to disrupt and prevent attacks by terrorist groups like al-Qaeda through robust intelligence and counter-terrorism capabilities. If an attack were to occur, we must be ready.

Medical surveillance and biological detection technology continues to advance rapidly, but it is not where we need it to be. Samples from currently-deployed detectors must be collected by hand and analyzed in laboratories. This can mean that up to 30 hours elapses between when a biological agent is released and when it is analyzed and identified in a lab. We need to continue to develop and facilitate the development of next generation automated detectors that can analyze as well as sample biological agents and feed information real-time to public health and emergency management officials.

For both pandemics and biological attacks, our final and perhaps most important line of defense are effective medical countermeasures. We must fund research and development of new medicines and vaccines and make sure that we have

adequate stockpiles of countermeasures and a robust and well thought out distribution plan in case crisis strikes.

7. Genetics research. The field of genetics has the potential to improve human health and nutrition, but many people are concerned about the effects of genetic modification both in humans and in agriculture. What is the right policy balance between the benefits of genetic advances and their potential risks?

Genetic research holds great promise, but also demands great responsibility. We stand on the threshold of life-changing breakthroughs shepherded by the human genome project. I share in the wonder that unlocking the human genetic code affords and the life-changing treatments and therapies it could allow. But this discovery should inspire restraint to equal to its promise to ensure nascent discoveries are not abused. As genetic research becomes increasingly deployed, the need to ensure privacy of human records will become all the more essential, as will be the rigor to ensure there is no genetic discrimination. The scientific potential and ethical issues associated with genetics are important and complex enough that I will actively seek out the wise counsel of experts about how to ensure that we are best serving the needs of the American people. Genetic research can already provide real assistance for those in some of the poorest regions who lack access to adequate food sources. Through increased research and development, we can help foster a new Green Revolution like the one that transformed Asia several decades ago. In partnership with government institutions, our colleges and universities should help train a new generation of African agro-scientists. Our aid programs should help focus on research into higher-yielding crops and make investments in infrastructure that will help farmers increase their yields and deliver their products to market.

8. Stem cells. Stem cell research advocates say it may successfully lead to treatments for many chronic diseases and injuries, saving lives, but opponents argue that using embryos as a source for stem cells destroys human life. What is your position on government regulation and funding of stem cell research?

While I support federal funding for embryonic stem cell research, I believe clear lines should be drawn that reflect a refusal to sacrifice moral values and ethical principles for the sake of scientific progress. Moreover, I believe that recent scientific breakthroughs raise the hope that one day this debate will be rendered academic. I also support funding for other research programs, including amniotic fluid and adult stem cell research which hold much scientific promise and do not involve the use of embryos. I oppose the intentional creation of human embryos for research purposes and I voted to ban the practice of “fetal farming,” making it

a federal crime for researchers to use cells or fetal tissue from an embryo created for research purposes.

9. Ocean Health. Scientists estimate that some 75 percent of the world's fisheries are in serious decline and habitats around the world like coral reefs are seriously threatened. What steps, if any, should the United States take during your presidency to protect ocean health?

As a former Navy officer I was constantly reminded of the power, wonder and complexity of our world's oceans. As Americans we are blessed by our location, surrounded by two of the world's great Oceans, along with the magnificent Great Lakes along our Northern border. Oceans and coastal waters provide us with critical resources, hours of recreation and protection. The environmental health of the oceans and the Great Lakes is a complex, multi-faceted issue requiring attention and action from numerous perspectives. It requires effective coastal zone and watershed management, both point and non-point water pollution management, and more effective fisheries management. It requires coordination and action by local, state and federal government agencies, by addressing issues like invasive aquatic species to agricultural runoff. It is one of the more complex management challenges facing the environment because the ocean ecosystem is affected by so many different activities and sources under so many different management jurisdictions – from sewage discharge treatment facilities, to air pollution depositions, to climate change. For example, the “dead zone” in the Gulf of Mexico which appears every summer does not result from human activities in the Gulf of Mexico, but from human activities across the Mid-West. The U.S. Commission on Ocean Policy has provided government leaders with an “Ocean Blueprint for the 21st Century” that has many good ideas; however, even it struggled with the enormity of the management challenge that lies before us, and recognized that there are no easy answers. This is at least partly due to the fact that so many of the human activities that adversely affect ocean health are not “ocean activities”, but are landside activities. Regional and ecosystem management concepts are easy to talk about, but are complicated to implement effectively, and they depend of obtaining a commitment from various necessary stakeholders.

Ocean health and policy requires better management focus; however, we also need a better scientific understanding of the oceans. In no area is this truer than in obtaining a better understanding of the interaction of climate change and the oceans. We need to better understand the ocean's role in the carbon cycle, in the effects of the massive amount of fresh water resulting from the melting of polar ice, which could dramatically affect global weather patterns, and in the effects of warmer ocean waters on weather – especially coastal storms - and on

marine life. Ocean science and engineering is a field that deserves greater attention and focus.

Although I have served the State of Arizona in the United States Senate, I have always had an enormous attraction to and appreciation for our oceans. Their health requires an increased focus and commitment from all Americans, not just from those who derive their livelihood from them or live on their shores.

10. Water. Thirty-nine states expect some level of water shortage over the next decade, and scientific studies suggest that a majority of our water resources are at risk. What policies would you support to meet demand for water resources?

As a westerner, I understand the vital role that water plays in the development of western economies and to maintaining a high quality of life. Water is truly our lifeblood. I believe that we must develop, manage, and use our limited water supplies wisely and with a conservation ethic to ensure that we have sufficient supplies to meet municipal, tribal, industrial, agricultural, recreational, and environmental needs. I believe that water rights must be respected, and that disputes are better resolved not in the courts but through negotiations that build consensus, and provide justly for the needs of the west's diverse interests and needs. I understand the importance of state law and local prerogatives in the allocation of water resources, and that all levels of government must work together with stakeholders to ensure that our lifeblood is protected, managed, and utilized in a wise, just, and sustainable manner.

I support constructive, continuing cooperation and dialogue among the states and the water users in a manner that is fully consistent with existing compacts and agreements. This is an approach that is forward looking, and ensures cooperation in achieving implementation of water agreements among the states and the Department of the Interior and is mindful of potential technological developments that could potentially reduce water demands in certain areas.

11. Space. The study of Earth from space can yield important information about climate change; focus on the cosmos can advance our understanding of the universe; and manned space travel can help us inspire new generations of youth to go into science. Can we afford all of them? How would you prioritize space in your administration?

The real question is whether we can afford not to. We must ensure that we have a balanced approach to our space investments along with proper management controls. Today, we rely more upon our space based assets than at any other time in history. We need the technological advances of these systems to effectively address tremendous challenges such as climate change.

Failure to properly address these problems will have devastating effects on the future of the planet.

For the past 50 years, space activities have contributed greatly to US scientific discovery, national security, economic development, and national innovation, pride and power (the ultimate example of which was the U.S. victory over the Soviets in the race to the moon). Spurred on by the Soviet Union's launch of Sputnik, the world's first satellite, and the concern that the U.S. was falling behind in science and technology, U.S. policymakers enacted several policy actions to firmly establish the U.S. dominance in science and technology. Among them were the establishment of the National Aeronautics and Space Administration (NASA) and the national Defense Advanced Research Projects Agency (DARPA), increased research funding, and a reformulation of the nation's science and technology education system.

Today, more than 50 years after Sputnik, the US faces a very different world. The end of the Cold War and the space race has greatly reduced the profile of space exploration as a point of national pride and an emblem of U.S. power and thus created some degree of "mission-rut" for NASA. At the same time, the scientific community views the use of space as an important observation platform for advancing science by increasing our understanding of the solar system and the universe. In addition, our recent comprehension of the Earth's changing climate is based on data that we have received from our weather and Earth observation satellites. Much of our communications infrastructure is dependent upon space based assets that are essential to the quality of our everyday lives and the economy.

China, Russia, India, Japan and Europe are all active players in space exploration. Both Japan and China launched robotic lunar orbiters in 2007. India is planning to launch a lunar orbiter later this year. The European Space Agency (ESA) is looking into a moon-lander, but is more focused on Mars. China also is actively pursuing a manned space program and, in 2003, became only the third country after the USSR and the US to demonstrate the capability to send man to space. China is developing plans for a manned lunar mission in the next decade and the establishment of a lunar base after 2020.

Activity within the commercial sector continues to increase beyond the traditional role of launching satellites. In 2007, the X-Prize Foundation announced a prize of \$30 million in a global competition to build the first robotic rover capable of landing on the Moon. Several companies are planning to develop and build spacecraft for space tourism.

I understand the importance of investments in key industries such as space to the future of our national security, environmental sustainability, economic competitiveness, and national pride as a technological leader. Although the general view in the research community is that human exploration is not an efficient way to increase scientific discoveries given the expense and logistical limitations, the role of manned space flight goes well beyond the issue of scientific discovery and is reflection of national power and pride.

History provides some guide to this. In 1971, when the Nixon Administration was looking at canceling the Apollo program and not approving the development of the Space Shuttle - then Office of Management and Budget Deputy Director Casper Weinberger stated that such a policy: "would be confirming in some respects a belief that I fear is gaining credence at home and abroad: That our best years are behind us, that we are turning inward, reducing our defense commitments, and voluntarily starting to give up our super-power status and our desire to maintain world superiority." Three and a half decades later this seems equally valid, if not more so given the increased number of countries that are making significant investments in space.

I have been involved in a number of efforts to improve America's scientific prowess within the space arena. As Chairman of the U.S. Senate Committee on Commerce, Science, and Transportation, I played a major role in legislation to provide funding for space exploration (manned and unmanned), space science, Earth science, and aeronautics research. I also sponsored legislation to support the up and coming commercial space industry, and led the Senate's efforts to implement improvements to NASA after the Columbia accident. I also spearheaded efforts to control costs at NASA and promote a space exploration agenda based on sound management, safe practices, and fiscal responsibility.

Current U.S. space operations policy commits the U.S. to completing the International Space Station (ISS) by 2010 and then terminating the Space Shuttle flights, with the completion of the ISS. I have called on the Bush Administration to suspend its decommissioning of the shuttle until the next President is in office, and to retain the option of continuing shuttle flights to the ISS in the interim period until the Ares/Orion vehicle is in service.

As President, I will --

- Ensure that space exploration is top priority and that the U.S. remains a leader;
- Commit to funding the NASA Constellation program to ensure it has the resources it needs to begin a new era of human space exploration.
- Review and explore all options to ensure U.S. access to space by minimizing

the gap between the termination of the Space Shuttle and the availability of its replacement vehicle;

- Ensure the national space workforce is maintained and fully utilized;

Complete construction of the ISS National Laboratory;

- Seek to maximize the research capability and commercialization possibilities of the ISS National Laboratory;

- Maintain infrastructure investments in Earth-monitoring satellites and support systems;

- Seek to maintain the nation's space infrastructure;

- Prevent wasteful earmarks from diverting precious resources from critical scientific research;

- and ensure adequate investments in aeronautics research.

12. Scientific Integrity. Many government scientists report political interference in their job. Is it acceptable for elected officials to hold back or alter scientific reports if they conflict with their own views, and how will you balance scientific information with politics and personal beliefs in your decision-making?

We have invested huge amounts of public funds in scientific research. The public deserves to have the results of that research. Our job as elected officials is to develop the policies in response to those research results. Many times our research results have identified critical problems for our country. Denial of the facts will not solve any of these problems. Solutions can only come about as a result of a complete understanding of the problem. I believe policy should be based upon sound science. Good policy development will make for good politics.

I support having a science and technology advisor within the White House staff and restoring the credibility and role of OSTP as an office within the White House structure. I will work to fill early in my Administration both the position of Science Adviser and at least four assistant directors within OSTP. I am committed to asking the most qualified scientists and engineers to join not only my OSTP but all of the key technical positions in my Administration.

Integrity is critical in scientific research. Scientific research cannot succeed without integrity and trust. My own record speaks for integrity and putting the country first, not political agendas.

13. Research. For many years, Congress has recognized the importance of science and engineering research to realizing our national goals. Given that the next Congress will likely face spending constraints, what priority would you give to investment in basic research in upcoming budgets?

With spending constraints, it will be more important than ever to ensure we are maximizing our investments in basic research and minimizing the bureaucratic requirements that eat away at the money designed for funding scientists and science. Basic research serves as the foundation for many new discoveries and represents a critical investment for the future of the country and the innovations

that drive our economy and protect our people. I have supported significant increases in basic research at the National Science Foundation. I also called for a plan developed by our top scientists on how the funding should be utilized. We must ensure that our research is addressing our national needs and taking advantage of new areas of opportunities and that the results of this research can enter the marketplace. We must also ensure that basic research money is allocated to the best science based on quality and peer review, not politics and earmarks.

I am committed to reinvigorating America's commitment to basic research, and will ensure my administration funds research activities accordingly. I have supported increased funding at DOE, NSF, and NIH for years and will continue to do so. I will continue my commitment to ensure that the funding is properly managed and that the nation's research needs are adequately addressed.

14. Health. Americans are increasingly concerned with the cost, quality and availability of health care. How do you see science, research and technology contributing to improved health and quality of life?

Each one of us who has been to the doctor in recent years has benefited greatly by the scientific and technological developments that have come from our nation's commitment to biomedical research. With every passing day our researchers are one day closer to finding potential cures to some of the most devastating diseases. Our engineers and technicians are developing new technologies and tests to discover health problems earlier and earlier, increasing the likelihood and effectiveness of intervention. When we understand the science of our illnesses because of the extensive research that we have conducted, we are in a better position to develop treatment technologies. With this additional knowledge, we are also able to do a better evaluation of the effectiveness of our treatment plans.

As in many other areas, science, research, and technology offer many opportunities to improve productivity and reduce cost. For instance, we are just beginning to realize the vast potential of telemedicine. It allows doctors to be able to reach more patients, especially those located in remote areas. In many cases, telemedicine is the only means by which some patients would ever be able receive treatment for their illnesses. Applications such as this leads to an improved health and quality of life for those affected patients. Ultimately, improved quality of life is the purpose of any technology.

And while technologies and the latest research can go a long way toward finding

new treatments and reducing costs, government policies must increase the availability of these to the American people. The biggest concern with the American health care system is that it costs too much. Small businesses and families pay more and more every year to get what they often consider to be inadequate attention or poor care. And those who want to buy insurance are often unable to afford health insurance because of the high cost. By promoting research and development of new treatment models, promoting wellness, investing in technology and empowering Americans with better information on quality, we can make health care more affordable.