

## US ELECTIONS

# The candidates on climate



The next US president will have a vital role in determining how the United States, and the world, tackles climate change. To further the debate, **Amanda Leigh Haag** submitted questions on climate and energy policy to both presidential candidates. The campaign for Democrat Barack Obama responded directly, but the Republican campaign did not respond. John McCain's views are taken from the Republican platform.

**What would you do to help restore the government's commitment to science? And how would you work to protect the integrity of science in the governmental process?**

**Obama:** In an Obama administration, scientific decisions will be made by scientists, not by political operatives. Obama will ensure public access to regulatory decision-making and close the revolving door between government and special-interest lobbyists. These efforts will reinvigorate science-based agencies like the Environmental Protection Agency and restore public confidence that policy decisions are based upon valid evidence.

Obama will double federal funding for basic research in physical, mathematical and engineering sciences, invest \$150 billion in clean-energy research and deployment, and improve mathematics and science education at all levels.

**McCain:** He would ensure that key government science and technological posts are filled by those with the appropriate qualifications and experience. He asserts the need for regulatory decisions affecting people's health, safety and welfare to be based on solid scientific facts, rather than being swayed by special interests.

**What methods would you support to reduce domestic greenhouse gas emissions? Are you in favour of a carbon tax, a cap-and-trade system, or some combination of the two?**

**Obama:** He aims to bring domestic greenhouse gas emissions down to 1990 levels by 2020 and to 80 per cent below 1990 levels by 2050. Obama supports a strong carbon cap, based on an ecological target consistent with the most current science and recognizes the advantage of pursuing a mechanism similar to other nations. He believes that a carbon tax would be largely redundant to an effectively designed cap and would not pursue a combination of the two policies.

**McCain:** He believes in a free enterprise, market-based system to transition to a lower-carbon economy. McCain supports a cap-and-trade system to achieve his goals of reducing greenhouse gas emissions to 1990 levels by 2020 and to 60 per cent below 1990 levels by 2050. He is not in favour of a carbon tax.

**In order to reach a global climate change agreement in Copenhagen in 2009, do you believe that the United States should take the lead on signing up**

**to international binding emissions targets? And how should the United States proceed if China and India do not initially agree to such a mandate?**

**Obama:** He believes that the United States must rejoin the international community in leading the world to adopt equitable and effective responses to climate change. Obama does not believe that the United States should wait for China and India to act, but believes that they must not be far behind in making their own binding commitments. Obama believes that the immediate challenge is to develop the consensus in Congress needed to cap domestic emissions, and that timely domestic action will significantly strengthen the ability of the United States to engage the international community in the Copenhagen process.

**McCain:** He vows to engage the United States in international negotiations on climate change. McCain says that he will negotiate with countries like China and India and will provide incentives for them to participate in an international agreement. He believes that the United States should not sign on to an international climate treaty unless China

and India agree to participate. He also believes that to successfully pass climate legislation through Congress, China and India must be engaged. But he has said that if the efforts to negotiate an international solution that includes China and India are not successful, the United States still has an obligation to act.

**Making aggressive reductions in greenhouse gas emissions will require quite radical actions for the United States and could have large economic costs. How would you balance the need for environmental protection with immediate concerns over energy prices?**

**Obama:** He agrees with former vice president Al Gore that we must fast-track public- and private-sector investments in renewable energy. Toward this end, he supports a 25 per cent renewable portfolio standard by 2025, an extension of tax incentives for renewable energy deployment, strong energy efficiency programs and increased investment in transmission grid and power-storage technologies.

Obama will also take steps to reduce the burden of rising energy prices on US families, including an emergency energy rebate, a plan to reduce price speculation in the oil market and a programme to weatherize one million low-income homes.

**McCain:** He promises to use a portion of the cap-and-trade auction proceeds to provide relief to low-income families.

**How much would you be willing to invest in developing and deploying alternative and renewable energy technologies?**

**Obama:** He will invest \$150 billion over ten years in renewable energy development and deployment, including a long-term extension of the production tax credit and the doubling of federal research and development funds for clean energy.

**McCain:** He will encourage a market for alternative energy technologies and promote development and deployment of advanced technologies through cap-and-trade. He proposes to offer a \$5,000 tax credit to consumers that purchase zero-carbon emission cars and a \$300 million prize for the development of battery technology that will bring plug-in hybrids and fully electric automobiles into full commercial use.

**Does your stance on tapping domestic oil reserves stand at odds with your goals for reducing national emissions and combating climate change? How will you balance the two?**

**Obama:** He believes it is absolutely critical that we pursue policies that simultaneously

address oil dependence and climate change. For this reason, Obama has championed proposals like a national low carbon fuel standard (LCFS) modelled on the programme adopted in California that requires petroleum marketers to reduce the lifecycle carbon emissions of their fuels by ten per cent by 2020.

While maintaining reservations about the benefits that will accrue from oil development off our coastlines, if there is a package that provides meaningful advances towards a clean-energy future, while allowing for limited Outer Continental Shelf drilling, it will be a measure that Obama will seriously consider.

**McCain:** He supports aggressive offshore drilling and plans to expand the exploration and production of domestic oil and natural gas. McCain traditionally has not supported drilling in the Arctic National Wildlife Refuge, a region in northeastern Alaska, but has recently hinted that his position could change.

**Would you support a ban on new coal-fired power plants that do not incorporate carbon capture and storage?**

**Obama:** He prefers a market-based, economy-wide cap to technology-specific command and control standards. Obama believes that 100 per cent of the emissions permits from a cap-and-trade carbon market should be auctioned, rather than provided at no cost, to energy producers. He would also devote considerable revenue from the permit auction to the development and deployment of utilities that incorporate carbon capture and storage, and he will direct his energy secretary to develop five commercial-scale, carbon-capture and sequestration coal-fired plants with the private sector.

**McCain:** He will commit to spending \$2 billion annually to promote clean-coal technologies. Under McCain's plan, a substantial amount of emissions permits would initially be given away to industry players and auctioning of permits would be gradually phased in. A portion of the auction proceeds would go towards funding research and commercialization of technologies such as carbon capture and sequestration, nuclear power and battery development.

**Where does nuclear power fit in with your vision for the US energy plan? And how do you plan to tackle the problem of nuclear waste?**

**Obama:** He recognizes that it will be difficult to achieve aggressive carbon goals

without nuclear power. Obama believes that we must aggressively pursue solutions to the obstacles facing all non-carbon forms of energy. He also recognizes that the public and investment community will not embrace a new generation of nuclear facilities until we have made considerable progress addressing concerns over cost, waste, safety and proliferation. Obama does not believe that Yucca Mountain (the Department of Energy's proposed underground storage facility) is a suitable site for the permanent disposal of the entire nation's nuclear waste. Nor does he believe that the current approach to storing waste at more than one hundred power plants is an optimal solution. Obama supports a proposal that would require all facilities to upgrade to state-of-the-art dry-cask storage while we explore more permanent solutions.

**McCain:** He has stated he has a goal of constructing 45 new nuclear power plants by 2030 and of eventually constructing 100 new plants. McCain believes that nuclear power is a proven source of zero-emission energy and that it should comprise a significant portion of energy production. To address the problem of nuclear waste disposal, McCain proposes a combination of reprocessing and long-term storage. He believes that nuclear waste could be safely stored at Yucca Mountain.

**How would your administration work to help countries that are suffering adverse impacts from climate change? Which nations would be the immediate priorities?**

**Obama:** He believes that our first obligation is to make the significant investments necessary to substantially reduce US emissions. At the same time, he supports US participation in international funds created to accelerate the deployment of clean technologies in developing countries. He recognizes that investments to assist fragile states in coping with the challenges of climate change are in the interests of US national security.

**McCain:** He states that a comprehensive approach, including both adaptation and mitigation, is needed to address climate change. He believes that an adaptation plan should be implemented at the local level and that it should address infrastructure, ecosystems, resource planning and emergency preparedness.

Published online: 24 September 2008

doi:10.1038/climate.2008.100