



THE CANDIDATES AND CLIMATE CHANGE

A Guide to Key Policy Positions

For the first time, both major party candidates for the presidency are deeply concerned about global climate change and publicly support a [mandatory, economy-wide cap-and-trade system](#) for reducing the U.S. greenhouse gas (GHG) emissions that contribute to global climate change. Global climate change now occupies a place of unprecedented importance in American politics, as the debate has advanced beyond the [causes of global climate change](#) to the actions needed to address it. This guide outlines key climate positions of Sen. John McCain and Sen. Barack Obama, examines the records of their respective vice-presidential nominees, and details relevant portions of the Republican and Democratic Party platforms, with links to related resources focused on critical climate change policy issues.



"The facts of global warming demand our urgent attention, especially in Washington."



"Global warming is real, is happening now and is the result of human activities."

The plans of Sen. Obama and Sen. McCain for addressing global climate change are remarkably similar to each other, and are profoundly different from those of the current administration. Either, if enacted, would make major reductions in U.S. GHG emissions. While there are more similarities than differences between the two candidates' proposals, some of the differences that do exist are significant. As a non-partisan policy center, the [Pew Center on Global Climate Change](#) will not be endorsing a specific candidate, and will be working to inform the policies of whoever is elected president. This brief guide

discusses a few notable details of the presidential contenders' plans to combat global climate change. A detailed, bullet-point summary of the candidates' policies is contained in the attached appendix.

Greenhouse Gas Cap and Trade as Primary Method of Reducing Greenhouse Gas Emissions

Both Sen. Obama and Sen. McCain support a mandatory, economy-wide GHG cap-and-trade program as a primary tool for reducing U.S. GHG emissions. In a cap-and-trade system, the government sets a declining annual cap on total GHG emissions, requires facilities that emit GHGs to acquire one "allowance" for each ton of their emissions, and allows the facilities to buy and sell allowances from each other or from the government (e.g., at an auction). In this way, while government establishes the environmental objective, industry, through the marketplace, decides the most cost effective way to achieve it.

Sen. McCain's proposal for a cap-and-trade program incorporates several details drawn from the cap-and-trade bills he co-authored with Sen. Joseph I. Lieberman (ID-CT) in the Senate in [2003](#), [2005](#), and [2007](#). Sen. Obama cosponsored the 2005 and 2007 McCain-Lieberman bills, but has taken different positions on two aspects of a cap-and-trade program: the pace of GHG reductions and the method of initially distributing GHG allowances.

As GHGs accumulate in the atmosphere, they adversely affect the climate for decades. Unfortunately, the United States' annual GHG emissions have been rising steadily – they were 14.7% higher in 2006 than they were in 1990.¹ Sen. McCain's plan calls for limiting U.S. GHG emissions at the 2005 levels by 2012; at 1990 levels in 2020 (15% below 2005 levels); and at 22% below 1990 levels in 2030 (34% below 2005 levels).

Sen. Obama has not specified short- and mid-term goals, but materials on his campaign's web site state that he "will start reducing emissions immediately in his administration by establishing strong annual reduction targets."

In the longer term, Sen. Obama has called for an 80% reduction of U.S. GHG emissions below 1990 levels by 2050, while Sen. McCain's plan calls for a 60% reduction below 1990 levels by 2050.

Initial allowance distribution is among the most contentious elements in the design of a cap-and-trade program. While allowance distribution does not affect the environmental integrity of the program (the quantity of GHGs emitted is determined by the cap levels mentioned above), it does have several other important policy implications. Under a cap-and-trade program, there are several methods by which allowances could be initially put into the market. Among other things, allowances could be: given for free to emitting facilities or manufacturers facing higher energy costs to assist the transition to low-carbon energy sources; auctioned to raise revenue for a variety of purposes, including protecting low-income consumers from higher energy costs, aiding the transition of

workers, subsidizing the development and deployment of low-carbon energy technologies, and managing the physical impacts of global climate change; or auctioned to provide revenue for the general treasury that could be used to offset tax cuts or to reduce the federal deficit, for example. Any combination of these methods may be employed.

Sen. Obama has proposed the auction of 100% of GHG emissions allowances, with an estimated \$250 billion a year in auction revenues being used for a variety of purposes, including an investment of \$150 billion over 10 years to develop and deploy lower-emission energy supplies and create new jobs. Sen. McCain has been less specific on the subject of initial allowance distribution. His campaign's website states that his program would eventually auction allowances, and would "work to maximize the amount of allowances that are auctioned by 2050." Similarly, the McCain-Lieberman bills would require the U.S. Environmental Protection Agency to determine how best to distribute allowances.

Complementary Policies to Slow or Reduce GHG Emissions

[Cap-and-trade](#) is essential to reducing U.S. GHG emissions, but by itself cap and trade will not be sufficient to bring domestic and international emissions down to safe levels. [Transportation policies](#), [building codes](#), [energy efficiency](#), and [low-carbon energy generation](#) are just a few of the areas that will need to be part of a successful comprehensive climate change policy.

Sen. McCain strongly favors dramatically expanded [nuclear power](#) generation. He has called for 45 new nuclear reactors by 2030 and for 100 new nuclear plants in the long term. Sen. Obama is open to increasing nuclear generation, saying, "it is unlikely that we can meet our aggressive climate goals if we eliminate nuclear power as an option," but "before an expansion of nuclear power is considered, key issues must be addressed including: security of nuclear fuel and waste, waste storage, and proliferation."

Both candidates support research, development and deployment (RD&D) of [carbon capture and sequestration](#) (CCS) technology for coal-fired power plants. CCS is also sometimes referred to as "clean coal technology." Sen. McCain has called for \$2 billion per year for CCS RD&D, while Sen. Obama would direct the Department of Energy to enter into public-private partnerships to develop five commercial-scale coal-fired plants with CCS.

The candidates disagree over a [renewable portfolio standard](#) (RPS) (also called a renewable energy standard [RES]), which would set a federal mandate for the percentage of electricity consumed in the U.S. that must come from renewable sources. Sen. Obama favors an RPS of 10% of all consumed energy by 2012. Sen. McCain opposes such a mandate, supporting instead tax incentives to encourage renewable energy production.

Both candidates have made recommendations that could reduce GHG emissions from the [transportation sector](#). Sen. McCain would establish a "Clean Car Challenge," a tax credit

of \$5,000 for every consumer who buys a zero-carbon emission car; McCain would also establish a \$300 million prize for the development of advanced battery technology for plug-in hybrid and fully electric automobiles. Sen. Obama proposes a \$7,000 tax credit for the purchase of advanced technology vehicles, and has set a goal of 1 million plug-in electric vehicles on the road by 2015. Both candidates support expanded production of flexible fuel vehicles (FFVs) – American automakers are already committed to make 50% of their cars FFVs by 2012, and Sen. Obama pledges to make 100% of all new cars are FFVs by 2012, while Sen. McCain “calls on automakers to make a more rapid and complete switch to FFVs.”

Changing the vehicles we drive is one important way to reduce GHG emissions from transportation, but addressing the emissions from transportation fuels themselves is also critical. To that end, Sen. Obama would establish a national Low Carbon Fuel Standard (LCFS), which would, starting in 2010, require fuel suppliers to reduce the carbon content of their fuel by 5% by 2015, and by 10% by 2020. Sen. Obama would also increase fuel economy standards by 4% a year. Sen. McCain would “effectively enforce” existing fuel economy standards, and would eliminate mandates, subsidies, tariffs and price supports that focus only on corn-based ethanol, which would “level the playing field for all alcohol-based fuels,” including cellulosic ethanol.

Both candidates recognize that improving [energy efficiency](#) across the economy can be a powerful tool for reducing GHG emissions. Sen. McCain would apply higher efficiency standards to new or retrofitted [buildings](#) leased or purchased by the Federal government, which is currently the largest energy consumer in the world, and occupies 3.3 billion square feet of space worldwide. Sen. McCain would also promote investment to upgrade the national electricity grid, and supports deploying smart metering technology. Sen. Obama would set a national electricity efficiency goal of reducing demand by 15% from DOE’s projected 2020 levels. Sen. Obama would also set a goal of making all new buildings carbon-neutral or zero-emission by 2030, and set a national goal of improving new building efficiency by 50% and existing building efficiency by 25% over the next decade. Like Sen. McCain, Sen. Obama pledges to reduce Federal energy consumption, improving energy efficiency in all new Federal buildings by 40% within 5 years, and ensuring that all new Federal building are zero-emitting by 2025. Sen. Obama also pledges to invest in a smart grid, and to incentivize states to adopt regulations allowing utilities to decouple profits from increased energy usage.

International Climate Agreements

The United Nations Framework Convention on Climate Change (UNFCCC) process is actively moving towards a new international climate change agreement, with an ambitious target completion date of December 2009. Both candidates have expressed their intent to actively engage in these [negotiations](#), and their approach to international climate policy is profoundly different from the current administration.

Both candidates have also expressed their intent to provide incentives for developing countries to reduce their GHG emissions. Sen. Obama would create a technology transfer

program within the Department of Energy to transfer lower-polluting American energy technology to the developing world to fight climate change; Sen. McCain would establish “government incentives and partnerships for sales of clean tech to developing countries.”

Regarding major emerging economies, such as [China](#) and [India](#) in particular, Sen. McCain would “provide incentives for rapid participation by India and China, while negotiating an agreement with each,” while Sen. Obama would “cooperate with China and India to reduce demand for oil,” and in general “ensure the U.S. works with developing countries on climate change,” including “confronting deforestation and promoting carbon sequestration.”

In addition, Sen. Obama “would create a Global Energy Forum – based on the G8+5, which include all G-8 members plus Brazil, China, India, Mexico and South Africa – of the world’s largest emitters to focus exclusively on global energy and environmental issues.” McCain has not publicly proposed an additional international process.

Additional Resources
[Climate Change 101 Briefs](#)
[Proposed Cap and Trade Legislation](#)
[Dialogue at Pocantico](#)
[Competitiveness and Engaging Developing Countries](#)
[Testimony before Senate Foreign Relations Committee](#)
[Insights from EU Emissions Trading System](#)²

EPA Regulations for CO₂

An October 16 article in [Bloomberg News](#) described an October 6 interview with Sen. Obama’s energy adviser, Jason Grumet, in which Mr. Grumet stated that Sen. Obama would, if elected, permit the EPA to use the 1990 Clean Air Act to regulate carbon dioxide (CO₂) emissions from power plants and manufacturers.

Sen. Obama would, “initiate those rulemakings,” Grumet said. “He’s not going to insert political judgments to interrupt the recommendations of the scientific efforts.”

If Sen. Obama carried out the pledge and declared CO₂ a dangerous pollutant, it would make him the first president to do so. In the 2007 case [Massachusetts v. E.P.A.](#), the Supreme Court ruled that the government has the authority to regulate GHGs, though the Bush Administration had argued it did not have such authority. Despite the ruling, the Administration has so far declined to regulate GHGs, and maintains that the 1990 Clean Air Act is too unwieldy an instrument to use for GHG regulation.

Many members of Congress feel the same way, including Rep. John Dingell (D-MI), the Chairman of the House Energy and Commerce Committee, which would be the committee of jurisdiction for GHG regulation in the House of Representatives. He has expressed his strong preference for GHGs to be regulated by Congressional legislation, rather than by EPA under the current Clean Air Act, and this month released a discussion

draft, co-authored by Rep. Rick Boucher (D-VA) of an economy-wide cap-and-trade bill. But if Congress fails to act, the EPA could take over GHG regulation if directed to do so by the President.

“The EPA is obligated to move forward in the absence of Congressional action,” Grumet said. “If there's no action by Congress in those 18 months, I think any responsible president would want to have the regulatory approach.”

Grumet also touched on the importance of U.S. climate change policy to ongoing international climate change treaty negotiations. “The U.S. has to move quickly domestically so we can get back in the game internationally,” Grumet said. “We cannot have a meaningful impact in the international discussion until we develop a meaningful domestic consensus. So he'll move quickly.”

Sen. McCain has not said whether he would regulate CO₂ emissions under the Clean Air Act. However, the Bloomberg News article did cite two McCain advisers' expression of the candidate's preference for regulating the gas through Congressional legislation—former Central Intelligence Agency director and current McCain adviser James Woolsey said on October 6 that new rules may conflict with Congressional efforts, while policy adviser Rebecca Jensen Tallent said in August that McCain prefers a bill debated by Congress rather than regulations “established through one agency where one secretary is getting to make a lot of decisions.”

On the Campaign Trail

Sen. John McCain:

“We must use all resources and develop all technologies necessary to rescue our economy from the damage caused by rising oil prices and restore the health of our planet.” – *Speech accepting the Republican nomination for President, Sep. 5, 2008.*

“We now know that fossil fuel emissions, by retaining heat within the atmosphere, threaten disastrous changes in climate. No challenge of energy is to be taken lightly, and least of all the need to avoid the consequences of global warming.

“Over time, we must shift our entire energy economy toward a sustainable mix of new and cleaner power sources. This will include some we use already, such as wind, solar, biofuels, and other sources yet to be invented. It will include a variety of new automotive and fuel technologies, clean-burning coal and nuclear energy, and a new system of incentives, under a cap-and-trade policy, to put the power of the market on the side of environmental protection. To make the great turn away from carbon-emitting fuels, we will need all the inventive genius of which America is capable. We will need as well an economy strong enough to support our nation's great shift toward clean energy.

“Global warming presents a test of foresight, of political courage, and of the unselfish concern that one generation owes to the next. We need to think straight about the dangers ahead, and meet the problem with all the resources of human ingenuity at our disposal. We Americans like to say that there is no problem we can't solve, however complicated, and no obstacle we cannot overcome if we meet it together. I believe this about our country. And now it is time for us to show those qualities once again.” – *Speech to the Clinton Global Initiative, Sep. 25, 2008.*

“... [President Bush] and I have not seen eye to eye on many issues. We've disagreed over energy policy and climate change...” – *June 3, 2008.*

“We have many advantages in the fight against global warming, but time is not one of them. Instead of idly debating the precise extent of global warming, or the precise timeline of global warming, we need to deal with the central facts of rising temperatures, rising waters, and all the endless troubles that global warming will bring. We stand warned by serious and credible scientists across the world that time is short and the dangers are great. The most relevant question now is whether our own government is equal to the challenge.

“There are vital measures we can take in the short term, even as we focus on long-term policies to mitigate the effects of global warming ... Each one of the consequences of climate change will require policies to protect our citizens, especially those most vulnerable to violent weather. Each one will require new precautions in the repair and construction our roads, bridges, railways, seawalls and other infrastructure. Some state and local governments have already begun their planning and preparation for extreme events and other impacts of climate change. The federal government can help them in many ways, above all by coordinating their efforts, and I am committed to providing that support.

“To lead in this effort, however, our government must strike at the source of the problem – with reforms that only Congress can enact and the president can sign. We know that greenhouse gases are heavily implicated as a cause of climate change. And we know that among all greenhouse gases, the worst by far is the carbon-dioxide that results from fossil-fuel combustion. Yet for all the good work of entrepreneurs and inventors in finding cleaner and better technologies, the fundamental incentives of the market are still on the side of carbon-based energy. This has to change before we can make the decisive shift away from fossil fuels.

“For the market to do more, government must do more by opening new paths of invention and ingenuity. And we must do this in a way that gives American businesses new incentives and new rewards to seek, instead of just giving them new taxes to pay and new orders to follow. The most direct way to achieve this is through a system that sets clear limits on all greenhouse gases, while also allowing the sale of rights to excess emissions. And this is the proposal I will submit to the Congress if I am elected president

– a cap-and-trade system to change the dynamic of our energy economy.” – *June 25, 2008.*

Sen. Barack Obama:

“I will build new partnerships to defeat the threats of the 21st century: terrorism and nuclear proliferation; poverty and genocide; climate change and disease.”

– *Speech accepting the Democratic nomination for President, Aug. 28, 2008.*

“No single issue sits at the crossroads of as many currents as energy. Our dependence on oil and gas funds terror and tyranny; it has forced families to pay their wages at the pump; and it puts the future of our planet in peril. This is a security threat, an economic albatross, and a moral challenge of our time. The time to debate whether climate change is manmade has past – it’s time, finally, for America to lead.

“The first commitment that I’ll make today is setting a goal of an 80 percent reduction in greenhouse gas emissions by 2050.

“To do our part, we’ll implement a cap-and-trade program so that there’s a price for pollution, and resources to transform our energy economy. I’ve proposed an investment of \$150 billion in alternative energy over ten years, which will create millions of jobs and break the cycle of our addiction to oil. We need to do more than drill. Now is the time to develop every form of alternative energy – solar, wind, and biofuels, as well as technologies that can make coal clean and nuclear power safe. We need to raise fuel economy standards, put more plug-in hybrid cars on the road, and find new ways to be energy efficient.

“Abroad, the United States must get off the sidelines. We’ll reach out to the leaders of the biggest carbon emitting nations and ask them to join a new Global Energy Forum to lay the foundation for the next generation of climate protocols. We’ll build an alliance of oil-importing nations, and work together to reduce our demand, and break the grip of OPEC. And as we develop clean energy, we should share technology and innovations with the nations of the world.

“This effort to confront climate change will be part of our strategy to alleviate poverty. Because we know that it is the world’s poor who will feel – and who may already be feeling – the affect of a warming planet. If we fail to act, famine could displace hundreds of millions, fueling competition and conflict over basic resources like food and water.”
– *Speech to the Clinton Global Initiative, Sep. 25, 2008.*

“As President, I will set a hard cap on all carbon emissions at a level that scientists say is necessary to curb global warming – an 80% reduction by 2050. To ensure this isn't just talk, I will also commit to interim targets toward this goal in 2020, 2030, and 2040. These reductions will start immediately, and we'll continue to follow the recommendations of top scientists to ensure that our targets are strong enough to meet the challenge we face.

“In addition to this cap, all polluters will have to pay based on the amount of pollution they release into the sky. The market will set the price, but unlike the other cap-and-trade proposals that have been offered in this race, no business will be allowed to emit any greenhouses gases for free. Businesses don't own the sky, the public does, and if we want them to stop polluting it, we have to put a price on all pollution. It's time to make the cleaner way of doing business the more profitable way of doing business.

“...to combat climate change [I will] call on businesses, government, and the American people to make America 50% more energy efficient by 2030. This is by far the fastest, easiest, and cheapest way to curb our emissions and save money at the same time. Since DuPont implemented an energy efficiency program in 1990, the company has significantly reduced its pollution and cut its energy bills by \$3 billion, and cities like Keene and Portland, Oregon have led in meeting new efficiency standards. There is no reason the rest of America can't do the same.

“We will start by dramatically improving the efficiency of our buildings, which currently account for nearly half of all carbon emissions in America today. When I am President, we'll set a goal of making our new buildings 50% more efficient within several years. The federal government will lead by making all of its buildings carbon neutral by 2025. And I will set a national goal of making all new buildings in America carbon neutral by 2030.” – *October 8, 2007.*

“One of the most dangerous weapons in the world today is the price of oil...this immediate danger is eclipsed only by the long-term threat from climate change, which will lead to devastating weather patterns, terrible storms, drought, and famine. That means people competing for food and water in the next fifty years in the very places that have known horrific violence in the last fifty: Africa, the Middle East, and South Asia. Most disastrously, that could mean destructive storms on our shores, and the disappearance of our coastline.” – *July 15, 2008.*

“Our changing climate is placing our planet in peril.” – *Aug. 4, 2008.*

The Vice-Presidential Candidates

Sen. Joseph R. Biden, Jr. (D-DE):

Sen. Biden is a long-time supporter of climate action, having voted for the 2003 and 2005 McCain-Lieberman bills, and having strongly advocated for U.S. engagement in international climate change treaty negotiations. In 2003 and 2005 with Senator John F. Kerry (D-MA), and in [2005](#) and [2007](#) with Sen. Richard Lugar (R-IN), he cosponsored a nonbinding resolution calling for U.S. participation in international climate change negotiations. Sen. McCain voted for this resolution in 2005.

Sen. Biden also cosponsored, with Senators Lugar and Hagel (R-NE), legislation which would authorize \$2 billion for the Clean Technology Fund, an initiative of President

George W. Bush, which would be administered by the World Bank to promote lower- and zero-carbon energy production projects in the developing world.

Gov. Sarah Palin (R-AK):

While Gov. Palin has taken state and regional action on climate change – such as establishing a special Climate Change Sub-Cabinet, and making Alaska an observer of the Western Climate Initiative (in which seven other U.S. states and four Canadian provinces are developing a mandatory cap-and-trade program to reduce the region’s greenhouse gas emissions) – she has also expressed skepticism about the extent to which human activities are contributing to global climate change and associated impacts. Alaska has not as yet adopted any measures to reduce its GHG emissions.

In December 2007, she told the *Fairbanks Daily News-Miner*, "I'm not an Al Gore, doom-and-gloom environmentalist blaming the changes in our climate on human activity. But I'm not going to put my head in the sand and pretend there aren't changes."

In a January 5, 2008, op-ed in *The New York Times* Palin treads this line. She argued against listing polar bears as an endangered species because of threats to their habitats caused by global climate change, writing “the possible listing of a healthy species like the polar bear would be based on uncertain modeling of possible effects. This is simply not justified.”

In August 2008, before Sen. McCain selected her as his running mate, she told *Newsmax.com* “A changing environment will affect Alaska more than any other state, because of our location. I’m not one though who would attribute it to being man-made.”

On September 3, 2008, in her first interview as the Vice-Presidential nominee, however, she told ABC News, “I believe that man’s activities certainly can be contributing to the issue of global warming, climate change.”

A September 30, 2008, interview for CBS News with Katie Couric featured an extensive exchange on climate change and cap and trade:

Couric: If [climate change] is not man-made, then one might wonder, well, how can human beings contribute to a solution?

Gov. Palin: Well, human beings certainly are contributing to pollution today. And to some adverse effects on the environment. And it's all of our jobs to do to clean things up. And that's what we're committed to doing.”

Couric: So you do believe ... that man is contributing to global warming, because you just said they're causing pollution. Of course, pollution causes global warming.

Gov. Palin: I believe that there are a lot of causes. And there is one effect. And one is

changes in the climate. And there are things that we can do to make sure we're cleaning up the environment. I also formed an integrity office that solely is focused on petroleum, on pipelines, on those things that we do up there in Alaska to contribute to the U.S. domestic supply of energy.

Where we can focus solely on environmental protections. There are a lot of things that I've done there in that arena of environmental protection that have kind of ticked off some in my own party thinking that I went too far. But I've always been of the mind that, you know, we gotta prove that we can do this right. Safely, ethically, environmentally friendly developments, or we're not gonna be allowed to unlock our lands and tap these supplies.

Couric: John McCain proposed legislation calling for mandatory caps on global warming gases or CO2 emissions. Do you agree with that?

Gov. Palin: I support his position on that. Absolutely.

Couric: But he somewhat backtracked on the campaign trail saying it wouldn't, they wouldn't, the caps wouldn't be mandatory, they'd be voluntary. So what do you think? Do you think voluntary caps go far enough? Or they should be mandatory?

Gov. Palin: He's got a good cap and trade policy that he supports. And details are being hashed out even right now. But, in principle, absolutely, I support all that we can do to reduce emissions and to clean up this planet. And John McCain is right on board with that.

Couric: Voluntary or mandatory in your view?

Gov. Palin: We're gonna keep working on how it can be implemented to actually make sense and make a difference.

The Party Platforms:

The Republican Party:

“As part of a global climate change strategy, Republicans support technology-driven, market-based solutions that will decrease emissions, reduce excess greenhouse gases in the atmosphere, increase energy efficiency, mitigate the impact of climate change where it occurs, and maximize any ancillary benefits climate change might offer for the economy.... Republicans caution against the doomsday climate change scenarios peddled by the aficionados of centralized command-and-control government.... [W]e will insist on reasonable policies that do not force Americans to sacrifice their way of life or trim their hope and dreams for their children. This perspective serves not only the people of the United States but also the world's poorest peoples, who would suffer terribly if climate

change is severe – just as they would if the world economy itself were to be crippled. We must not allow either outcome.”

The Democratic Party:

“We will help pay for [clean energy programs] by dedicating a portion of the revenues generated by an economy-wide cap-and-trade program – a step that will also dramatically reduce our greenhouse gas emissions and jumpstart billions in private capital investment in a new energy economy.”

For more on the two candidates positions, see:

Appendix: Candidates’ climate- and energy-related policy positions

SEN. BARACK OBAMA

[Candidate’s website](#)

- “Global warming is real, is happening now and is the result of human activities.”
- Implement an economy-wide cap-and-trade program to reduce greenhouse gas emissions 80% below 1990 levels by 2050.
- Invest \$150 billion over the next ten years to develop and deploy climate-friendly energy supplies, protect our existing manufacturing base, and create millions of new jobs.
- Improve energy efficiency to reduce the energy intensity of our economy by 50 percent by 2030.
- Reduce our dependence on foreign oil and reduce oil consumption overall by at least 35 percent, or 10 million barrels of oil, by 2030.
- Make the U.S. a leader in the global effort to combat climate change by leading a new international global warming partnership.

Sen. Obama’s climate policy positions:

- Cap-and-trade with 100% auction.
- Invest revenue for a clean energy future.
 - Invest in basic research.
 - Invest in a skilled clean technologies workforce. This includes a youth jobs program to invest in disconnected and disadvantaged youth.
 - Invest in energy efficiency improvements and address transition costs, including helping American workers affected by this economic transition and helping lower-income Americans afford their energy bills by expanding the Low Income Home Energy Assistance Program, expanding weatherization grants for low-income individuals to make their homes more energy efficient, and establishing a dedicated fund to assist low-income Americans afford higher electricity and energy bills

- Develop next generation of biofuels.
- Expand locally-owned biofuel refineries.
- Develop and deploy clean coal technology. “Obama will use whatever policy tools are necessary, including standards that ban new traditional coal facilities, to ensure that we move quickly to commercialize and deploy low carbon coal technology.”
- Safe and secure nuclear energy: “Four key issues: public right-to-know, security of nuclear fuel and waste, waste storage, and proliferation.”
- Establish a national Low Carbon Fuel Standard.
- Clean Technologies Deployment Venture Capital. To be “modeled on the Central Intelligence Agency In-Q-Tel program. In-Q-Tel is a non-profit, independently-managed venture capital fund led by seasoned venture capital professionals to develop new intelligence technologies for the CIA. The first five years of In-Q-Tel funding led to 22 new technologies being used in 40 government programs.”
- Extend federal Production Tax Credit for renewable energy for five years.
- Convert manufacturing centers into clean technology leaders.
- 25% renewable electricity standard by 2025.
- 30% renewable electricity standard for the Federal government by 2020.
- Improve building efficiency.
- Expand federal efficiency grants.
- Phase out incandescent light bulbs.
- Invest in smart grid.

International positions:

- Re-engage with UNFCCC.
- Create new forum of largest GHG emitters: “Barack Obama will take seriously the U.S.’s leadership role in combating climate change. Obama will signal to the world the U.S. commitment to climate change leadership by implementing an aggressive domestic cap-and-trade program coupled with increased investments in clean energy development and deployment. Obama will build on our domestic commitments by creating a negotiating process that involves a smaller number of countries than the nearly 200 countries in the current Kyoto system. Obama will create a Global Energy Forum – based on the G8+5, which includes all G-8 members plus Brazil, China, India, Mexico and South Africa – of the world’s largest emitters to focus exclusively on global energy and environmental issues.”
- Transfer American technology to the developing world to fight climate change: “Obama will create a Technology Transfer program within DOE.”
- Cooperate with oil importers (China, India) to reduce demand.
- Ensure the U.S. works with developing countries on climate change.
- Confront deforestation and promote carbon sequestration.

SEN. JOHN McCAIN
[Candidate's website](#)

Sen. John McCain's Cap and Trade Policy:

- **Greenhouse Gas Emission Targets And Timetables:**
 - 2005 levels in 2012 (18% above 1990 levels)
 - 1990 levels in 2020 (15% below 2005 levels)
 - 22% below 1990 levels in 2030 (34% below 2005 levels)
 - 60% below 1990 levels in 2050 (66% below 2005 levels)

- **Coverage:**
 - Electric power, transportation fuels, commercial businesses, and industrial businesses.
 - Just below 90% of all emissions. Small businesses would be exempt. Initially, participants would be allowed to either make their own GHG reductions or purchase "offsets" – financial instruments representing a reduction, avoidance, or sequestration of greenhouse gas emissions practiced by other activities, such as agriculture – to cover 100 percent of their required reductions. Offsets would only be available through a program dedicated to ensure that all offset GHG emission reductions are real, measured and verifiable. The fraction of GHG emission reductions permitted via offsets would decline over time.

- **Allocation and Auction:**
 - “Emissions permits will eventually be auctioned to support the development of advanced technologies. A portion of the proceeds of these auctions will be used to support a diversified portfolio of research and commercialization challenges, ranging from carbon capture and sequestration, to nuclear power, to battery development. Funds will also be used to provide financial backing for a Green Innovation Financing and Transfer (GIFT) to facilitate commercialization.”

 - “A portion of auction proceeds” will also go to “reduce impacts on low-income American families.”

 - “Early allocation of some emission permits on sound principles. This will provide a significant amount of allowances for auctioning to provide funding for transition assistance for consumers and industry. It will also directly allocate sufficient permits to enable the activities of a Climate Change Credit Corporation, the public-private agency that will oversee the cap and trade program, provide credit to entities for reductions made before 2012, and ease transition for industry with competitiveness concerns and fewer efficiency technology options.”

- “A commission will also be convened to provide recommendations on the percentage of allowances to be provided for free and the percentage of allowances to be auctioned, and develop a schedule for transition from allocated to maximum auctioned allowances. Cap-and-trade system will also work to maximize the amount of allowances that are auctioned off by 2050.”
- **Cost-containment:**
 - Full banking and borrowing.
 - Initially, firms will be able to use domestic and international offsets for 100% of their compliance obligation.
 - Trading will be integrated with other international markets.
 - A Strategic Carbon Reserve will be established as a national source of permits “during periods of economic duress.”
- **International:**
 - “John McCain will engage the international community in a coordinated effort by:
 - Actively engaging to lead United Nations negotiations;
 - Permitting America to lead in innovation, capture the market on low-carbon energy production, and export to developing countries – including government incentives and partnerships for sales of clean tech to developing countries;
 - Provide incentives for rapid participation by India and China, while negotiating an agreement with each.”
- **Adaptation:**
 - “John McCain will develop a climate change adaptation plan.
 - A comprehensive approach to addressing climate change includes adaptation as well as mitigation.
 - An adaptation plan should be based upon national and regional scientific assessments of the impacts of climate change.
 - An adaptation plan should focus on implementation at the local level which is where impacts will manifest themselves.
 - A comprehensive plan will address the full range of issues: infrastructure, ecosystems, resource planning, and emergency preparation.”

The Lexington Project for Energy Independence

- 45 new nuclear reactors by 2030.
- Long-term goal of 100 new nuclear plants.
- \$2 billion/year to clean coal RD&D.
- Clean Car Challenge to automakers: The first zero-emission car will earn \$5,000 tax credit for each customer. For other vehicles, the lower the carbon emissions, the higher the tax credit.
- Goal of a “swift conversion of American vehicles away from oil.”

- \$300 million prize for advanced vehicle battery technology.
- Renewables to be incentivized through cap-and-trade program.

¹ Environmental Protection Agency (EPA). 2008. "Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006." See <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>.

² The European Union Emissions Trading Scheme is the world's first carbon dioxide cap-and-trade program and offers valuable lessons about cap-and-trade program design.