CLIMATE CHANGE

CONTROVERSIAL ISSUES IN THE NEWS

CLOSE UP®
WASHINGTON DC

CLOSE UP
WASHINGTON DC

CLOSE UP IN CLASS
CONTROVERSIAL ISSUES IN THE NEWS

CLIMATE CHANGE

CENTRAL QUESTION

How, if at all, should the United States work to combat climate change?

INTRODUCTION

In October 2018, the Intergovernmental Panel on Climate Change (IPCC)—an international body of scientists formed by the United Nations (UN)—issued a report suggesting that the immediate consequences of climate change are much more serious than previously believed, and that avoiding the impacts will require a rapid, drastic transformation of the global economy. In this *Close Up in Class Controversial Issue in the News*, we will examine the major findings of the IPCC report and challenge you to weigh the pros and cons of the various paths forward.

BACKGROUND

What Is Climate Change? Climate change is a term used to describe a shift in worldwide weather patterns associated with an increase in global average temperatures. This global warming is generally attributed to the greenhouse effect, in which certain gases released into the atmosphere prevent the Earth's heat from escaping.[1] The major greenhouse gases are carbon dioxide, methane, and nitrous oxide.[2]

The most important greenhouse gas is carbon dioxide, which accounted for 81 percent of U.S. greenhouse gas emissions in 2016.[3] Carbon dioxide occurs both in nature and as a result of human activities. In nature, carbon dioxide is produced by volcanoes, by the combustion and decay of organic matter, and by respiration.[4] Humans create carbon dioxide by burning fossil fuels (such as oil, natural gas, and coal), solid waste, and trees.[5] Over the past 20 years, nearly three-fourths of human-caused emissions have come from the burning of fossil fuels, according to the U.S. Department of Energy.[6]

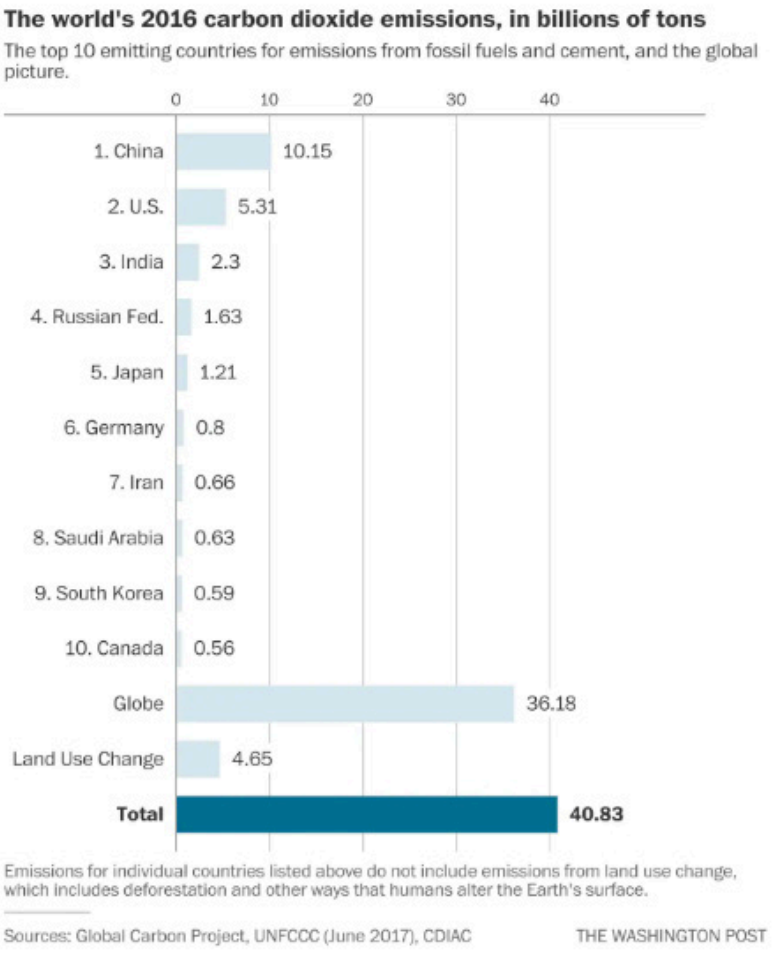
As of 2017, the global average amount of carbon dioxide in the atmosphere was 405 parts per million—the highest level in at least 800,000 years, according to the U.S. National Oceanic and Atmospheric Administration.[7] The heightened presence of atmospheric carbon dioxide has fueled concerns about an increase in global temperatures, with many scientists predicting more frequent and worsening droughts, the extinction of certain plants and animals, and changes in global climate patterns as a result.

What are the major greenhouse gases?

What Is The IPCC? The IPCC was established in 1988 by the UN Environment Programme and the World Meteorological Organization, with the intent of providing policymakers with regular assessments of (1) the scientific basis of climate change, (2) the risks and impacts of climate change, and (3) options for adaptation and mitigation.[8]

During a UN summit in 2015, the United States and 194 other countries forged a pact that became known as the Paris Agreement. This pact included a goal of holding this century's increase in the global average temperature "to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above preindustrial levels."[9] As of October 2018, only 182 nations are parties to the Paris Agreement.[10] President Donald Trump announced in June 2017 that the United States would withdraw from the pact (a process that is expected to take at least three years). He argued that remaining in the agreement would cost the United States trillions of dollars, slash jobs, and harm the oil, gas, coal, and manufacturing industries.[11]

In the meantime, the signers of the Paris Agreement invited the IPCC to prepare a report to assess the implications of the pact's goals. The report was written and edited by 91 lead authors and editors from 40 countries, who analyzed more than 6,000 scientific studies.[12]



What Did The IPCC Conclude? The IPCC's report focused largely on (1) what it believes would be required to limit global warming to 1.5°C and (2) its projections of the impacts of 1.5°C of warming compared with 2°C.[13] According to the report:

- The IPCC estimates that human activities have caused approximately 1.0°C of global warming above preindustrial temperatures. (The period from 1850 to 1900 is often used to approximate preindustrial global averages.) The IPCC believes global warming is likely to reach 1.5°C between 2030 and 2052 if the temperature continues to increase at the current rate.[14]
- At 1.5°C of global warming, the IPCC projects that the Arctic would lack summer sea ice once per century; at 2°C, this would likely occur at least once per decade.[15]
- At 1.5°C of global warming, the IPCC projects that coral reefs would shrink by 70 to 90 percent; at 2°C, they would likely shrink by 99 percent.[16]
- At 1.5°C of global warming, the IPCC projects that six percent of insects, eight percent of plants, and four percent of vertebrates (of 105,000 species studied) would lose over half of their climatically determined geographic ranges. At 2°C, the same would likely occur for 18 percent of insects, 16 percent of plants, and eight percent of vertebrates.[17]

So, what does the IPCC suggest that the global community do in response?

- To stay below 1.5°C of global warming, the IPCC suggests reducing carbon dioxide emissions by 45 percent (compared with 2010 levels) by 2030 and reaching net zero by 2050.[18]

- To help reduce carbon dioxide emissions, the IPCC believes a tax on carbon dioxide would be necessary. It suggests that taxes range from $135 to $5,500 per ton of carbon dioxide emitted in 2030, and $690 to $27,000 per ton by 2100.[19]
- To prevent 1.5°C of global warming with limited overshooting (going above 1.5°C and then back down), the IPCC suggests cutting coal power by 61 to 78 percent of 2010 levels by 2030, and by 73 to 97 percent by 2050.[20] It calls for increasing renewable sources of electricity from 20 percent today to between 48 and 60 percent in 2030 and between 63 and 81 percent in 2050.[21]
- The IPCC suggests converting between 0.4 million and 2.7 million square miles of land to grow bioenergy crops; it also suggests adding up to 3.86 million square miles of forest by 2050.[22]
- The IPCC estimates that it would cost approximately $54 trillion to transform the global economy in such a way.[23]

Read the IPCC Summary for Policymakers

For its part, the Trump administration reacted to the IPCC report with caution. "I'm not denying any climate change issues," said Larry Kudlow, director of the National Economic Council. "I'm just saying do we know precisely, and I mean worth modeling, how much of it is man-made, how much of it is solar, how much of it is oceanic, how much of it is rainforest, and other issues? I think we're still exploring all of that."[24]

U.S. officials also criticized the UN for leaving out the benefits of fossil fuels in the report's summary. "The [summary] fails to note that recent decades have seen the fastest declines in global poverty in both numbers and proportion of population even as fossil fuel use has exploded," U.S. officials wrote to the UN ahead of the report's release.[25] Furthermore, some conservatives questioned the reliability of the report's computer models. "The IPCC's report is the latest in a series of dire warnings of tipping points and last chances dating back to the 1980s," said Myron Ebell, director of the Center for Energy and Environment at the Competitive Enterprise Institute. "The good news is that the rate of global warming since 1980 is much lower than that predicted by the computer models used by the IPCC."[26]

So, what happens next? The UN is holding climate change talks in Poland in December 2018, and the IPCC report is expected to frame the agenda as governments aim to establish rules based on Paris Agreement targets.[27]

EVALUATION OF PROPOSALS

How, if at all, should the United States work to combat climate change?

The following pages contain six proposals that the United States could incorporate into its energy and environmental policies. Consider the pros and cons of each proposal, conduct any additional research, and answer or discuss the following questions:

- Which proposal(s), if any, do you favor? Why?
- Which proposal(s), if any, would you change? How?
- Which proposal(s), if any, would you reject? Why?
- Are there any other proposals that you would put forward? Explain your answer.

How, if at all, should the United States work to combat climate change?

OPTION	WHAT SUPPORTERS SAY	WHAT OPPONENTS SAY
1. The government should study climate change further to determine whether or not there is a serious problem before implementing any new policies.	Although many environmental activists like to refer to climate change as settled science, the very nature of scientific study is to doubt, to question, and to examine every angle. Some scientists argue that the Earth has always warmed and cooled, that the Earth is warming but the human contribution is not yet well enough understood, and that the computer models used in climate change studies are far from reliable.[28] "I've been trying to understand how there can be such a strong consensus, given these uncertainties," said Judith Curry, the former chairperson of the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology.[29] Climate change activists are demanding that the United States essentially blow up its economy—placing jobs, livelihoods, and entire industries at risk—on the basis of uncertain threats. "I don't think we should panic," Kudlow said. "I don't think there's an imminent disaster coming, but I think we should look at this in a level-headed and analytic way."[30]	A strong majority of climate scientists believe that the Earth is warming, and that human activities are very likely the cause of this warming trend. Many of the leading scientific organizations in the world have issued statements that endorse this position.[31] As for the IPCC report, it was written and edited by 91 lead authors and editors from 40 countries, who analyzed more than 6,000 scientific studies.[32] Therefore, the time has come for people and governments to stop stalling and to do the hard work required to preserve the planet for future generations. There is simply not enough time to study the problem of climate change further, as fossil fuels continue to burn and fill the air with greenhouse gases. According to the IPCC, in as little as 12 years, the Arctic could be facing summers without sea ice and coral reefs could decline by another 70 to 90 percent. Governments must act now.
2. The United States should rejoin the Paris Agreement, which commits parties to (1) limiting the increase in global temperatures to 2°C this century, (2) pursuing domestic measures to address climate change, (3) reporting regularly on emissions and progress, (4) supporting climate change mitigation efforts in the developing world, and (5) helping to raise $100 billion in annual funding for environmental initiatives through 2025.[33]	As the largest economy (and the second largest emitter of carbon dioxide) in the world, the United States has a responsibility to lead by example on important issues such as climate change. Global warming is a worldwide threat that requires a unified response, and the Paris Agreement is a valuable tool for ensuring international cooperation. Rejoining the pact will help the United States maintain its status as a global superpower, help build international momentum to tackle this issue, and provide the United States with the authority to pressure other countries (such as China, the world's largest emitter of carbon dioxide) into changing their behavior.	Despite all the hopeful talk about the Paris Agreement, this pact is ineffective and unenforceable, and would lead to economic ruin in the United States while letting other countries off the hook. To keep global warming below 2°C in this century, the Paris Agreement asks countries to make voluntary reductions in emissions—without detailing how they should do so or defining a punishment should they fail or not try.[34] And so far, the pledges put forth under the Paris Agreement would still lead to global warming of 3°C by the end of the century.[35] The United States cannot afford to destroy its energy, agriculture, and automotive industries in order to help make up for a lack of action by other countries.

OPTION	WHAT SUPPORTERS SAY	WHAT OPPONENTS SAY
3. The government should make it easier to develop and license advanced nuclear reactors, and the United States should boost its production of nuclear power.	If Americans are serious about reducing carbon dioxide emissions, they must boost their reliance on nuclear power, which is reliable and cost effective, and does not produce greenhouse gases. Nuclear power generated 20 percent of the nation's electricity in 2017, using uranium (a relatively common element mined from the Earth's surface) as fuel.[36] One pellet of uranium contains the same amount of energy as 17,000 cubic feet of natural gas, one ton of coal, or 149 gallons of oil.[37] And nuclear power is safe. Worldwide, there are 450 commercial nuclear reactors operating in 31 countries; 16 of those countries depend on nuclear power for at least a quarter of their electricity.[38] And in the entire history of commercial nuclear power (more than 17,000 cumulative reactor-years), there have been only three major accidents, only one of them in the United States—and that one harmed no one and brought about key reforms in engineering, radiation protection, and regulation.[39]	Nuclear power is not renewable, as uranium is a finite resource that will eventually run out; plus, these power plants require billions of dollars in capital to construct. But more important is the fact that nuclear power is not safe. This form of energy creates radioactive materials as part of its normal production process—waste that must be properly stored and isolated to prevent any human exposure to deadly or cancer-causing radiation. As of 2018, commercial nuclear power has created more than 80,000 metric tons of spent fuel that is stored at sites in 35 states, as the federal government does not have one central waste repository.[40] There have also been three major accidents in the history of commercial nuclear power, including one (Chernobyl in the Soviet Union) that killed 30 plant workers and could eventually kill as many as 9,000 people from cancers related to the accident, according to the World Health Organization.[41]
4. The government should incentivize the development and use of renewable fuels (including hydroelectric, wind, biomass, solar, and geothermal power), by providing tax credits and grants for research and development, and by making direct market interventions.	Renewable fuels created 11 percent of the energy and 17 percent of the electricity consumed in the United States in 2017.[42] These numbers show that renewables are viable, they are worth investing in, and they offer potential for growth, development, and prosperity. In fact, the Bureau of Labor Statistics reported in October 2017 that the top-growing job classification over the next decade will be solar panel installer, followed by wind turbine service technician.[43] The government must harness this growth potential and make smart, targeted investments in a clean energy future. After all, the government has already made several wise investments in renewable power over the years. The Hoover Dam was partially financed by federal loans, and Tesla Motors Inc. repaid its $465 million government loan nine years ahead of schedule.[44]	At a time when the United States is struggling with more than $21 trillion in national debt, it is not appropriate for the federal government to play the role of the risk-taking venture capitalist. The government has already made several high-profile mistakes when doing so. In 2011, the solar panel start-up Solyndra filed for bankruptcy and defaulted on a $535 million loan guaranteed by the Department of Energy. Two years later, taxpayers lost $139 million in loans when the electric car company Fisker Automotive Inc. filed for bankruptcy.[45] The truth is that some renewable energy technologies remain unreliable, expensive, uncompetitive, and inadequately tested. To avoid wasting scarce government resources, the government should allow the private sector to take the lead on making such investments.

OPTION	WHAT SUPPORTERS SAY	WHAT OPPONENTS SAY
5. The government should keep in place strict Obama-era fuel efficiency standards for cars, which would boost the average fuel efficiency of new cars sold in the United States to 54.5 miles per gallon by 2025.[46]	According to the Environmental Protection Agency (EPA), the transportation sector generates the largest share of greenhouse gas emissions in the United States (28.5 percent in 2016), through the burning of fossil fuels for cars, trains, ships, and planes.[47] Therefore, the Trump administration must keep in place (or even build upon) the strict fuel efficiency standards implemented by President Barack Obama's administration. These regulations would help improve the market competitiveness of cars made in the United States and encourage Americans to invest in hybrid and electric vehicles. And even if strict fuel efficiency standards lead to higher prices for new cars, they will encourage Americans to become less reliant on driving and more dependent on bike-riding, walking, and using cleaner forms of public transportation.	In August 2018, the Trump administration announced that it would freeze the Obama-era fuel efficiency standards at 2020 levels (about 37 miles per gallon) through 2026—and for good reason. If the government boosts fuel efficiency standards to an unreasonable level, it does little more than drive up the price of new cars and encourage people (especially poorer people) to drive their older, less-safe, higher-polluting cars. In fact, the National Highway Traffic Safety Administration and the EPA estimated in 2018 that freezing fuel efficiency targets (rather than continuing to 54.5 miles per gallon by 2025) would save consumers $2,340 on the price of a new car, reduce highway deaths by 1,000 each year, and save the country $500 million in overall costs.[48] The auto industry provides work for approximately seven million Americans, and the government cannot afford to endanger those jobs by making new cars unaffordable.[49]
6. The government should implement a per-ton tax on carbon dioxide emissions.	If the United States is committed to avoiding the catastrophic effects of climate change, it must make the burning of fossil fuels—oil, natural gas, and coal—a thing of the past. For well over a century, fossil fuels have accounted for at least 80 percent of U.S. energy consumption.[50] The only way to break this dependency is by taxing the carbon dioxide emissions that fossil fuels create. After all, those who are causing the damage should pay the price. This is hardly a new idea; in fact, as of 2018, at least 40 countries are pricing carbon in some form and ten U.S. states are doing the same.[51] Now, it is time for the federal government to catch up and implement this policy nationwide. The revenue from such a tax could be used to pay down the national debt, reduce Americans' payroll taxes, provide household rebates, or invest in carbon capture technologies.	A carbon tax may sound harmless, but in the United States, it has the potential to devastate the economy. The United States is the world's top producer of oil and natural gas hydrocarbons, and it is the single largest holder of proven coal reserves (with 24 percent of the global total).[52] A carbon tax would punish the very development and use of those vast domestic energy reserves, slashing jobs and depriving Americans of energy they need to build cities, reduce poverty, and boost standards of living. The IPCC suggested that in order to be effective, carbon prices could range from $135 to $5,500 per ton in 2030, and from $690 to $27,000 per ton by 2100.[53] Such immense rates would result in higher gasoline prices and higher electric bills for everyday consumers. This regressive tax would also harm the poor more than the rich, as the poor spend a larger percentage of their income on energy services.[54]

What is the Paris Agreement?

What is the debate over nuclear power?

How do U.S. fuel efficiency standards compare with the rest of the world's?

What is a carbon tax?

For more on the debate over developing advanced nuclear reactors, please see The Advanced Nuclear Technology Development Act in Controversial Issues in the News.

For more on the debate over greenhouse gas emissions, please see Methane Emissions in Controversial Issues in the News.

REFLECTION

This discussion has largely focused on energy and environmental policies that the federal government could enact, but there is also much that individuals can do to take care of the environment. Research and write a short essay that answers the following questions:

What can individuals do to address climate change? How can governments (at the local, state, or federal level) work to encourage individual action?

KEY TERMS

Carbon dioxide

Carbon dioxide is a colorless, odorless gas produced by respiration, certain chemical reactions, and the burning of fossil fuels, solid waste, and trees and wood products. Plants absorb carbon dioxide. It is a greenhouse gas that traps heat in the Earth's atmosphere, accounting for 81 percent of U.S. greenhouse gas emissions.

Climate change

Climate change is a term used to describe a shift in worldwide weather patterns associated with an increase in global average temperatures.

Emission

An emission is the production or discharge of a gas.

Fossil fuel

A fossil fuel is a source of energy that is formed in the Earth from the remains of plants and animals. Oil, natural gas, and coal are all fossil fuels.

Fuel efficiency standards

Fuel efficiency standards are government regulations that aim to improve the average fuel economy of vehicles. In other words, they aim to make auto manufacturers produce vehicles that use less gasoline per mile driven.

Global warming

Global warming is a gradual increase in the temperature of the Earth's atmosphere. It is generally attributed to the greenhouse effect, in which carbon dioxide, methane, and other greenhouse gases trap heat in the atmosphere.

Greenhouse gas

Greenhouse gases, which include carbon dioxide, methane, and nitrous oxide, absorb heat from the Earth's surface, trap that heat in the atmosphere, and contribute to the greenhouse effect.

Mitigation

Mitigation is the act of reducing the seriousness of something.

Renewable energy

Renewable sources of energy include hydroelectric, wind, biomass, solar, and geothermal power. Renewables replenish naturally and will never run out.

ENDNOTES

[1] NASA. "A Blanket Around the Earth." Web. 26 Oct. 2018. *Wired*. "What Is Climate Change? The Definition, Causes, and Effects." 15 May 2018. Web. 29 Oct. 2018.

[2] Environmental Protection Agency. "Overview of Greenhouse Gases." Web. 26 Oct. 2018.

[3] Ibid.

[4] Mann, Michael. "Greenhouse Gas." *Encyclopedia Britannica*. 19 Sep. 2018. Web. 26 Oct. 2018.

[5] Environmental Protection Agency. "Overview of Greenhouse Gases." Web. 26 Oct. 2018.

[6] U.S. Department of Energy. "Fossil." Web. 26 Oct. 2018.

[7] Lindsey, Rebecca. "Climate Change: Atmospheric Carbon Dioxide." National Oceanic and Atmospheric Administration. 1 Aug. 2018. Web. 26 Oct. 2018.

[8] World Meteorological Organization and United Nations Environment Programme. *Understanding the IPCC Special Report on 1.5 Degrees Celsius*. 8 Oct. 2018. Web. 24 Oct. 2018. Intergovernmental Panel on Climate Change. "IPCC Fact Sheet: What is the IPCC?" 30 Aug. 2013. Web. 24 Oct. 2018.

[9] World Meteorological Organization and United Nations Environment Programme. *Understanding the IPCC Special Report on 1.5 Degrees Celsius*. 8 Oct. 2018. Web. 24 Oct. 2018.

[10] United Nations Treaty Collection. "Chapter XXVII, Environment, 7. d. Paris Agreement." 24 Oct. 2018. Web. 24 Oct. 2018.

[11] Volcovici, Valerie. "U.S. Submits Formal Notice of Withdrawal from Paris Climate Pact." Reuters. 4 Aug. 2017. Web. 24 Oct. 2018.

[12] Davenport, Coral. "Major Climate Report Describes a Strong Risk of Crisis by as Early as 2040." *New York Times*. 7 Oct. 2018. Web. 24 Oct. 2018.

[13] World Meteorological Organization and United Nations Environment Programme. *Understanding the IPCC Special Report on 1.5 Degrees Celsius*. 8 Oct. 2018. Web. 24 Oct. 2018.

[14] Intergovernmental Panel on Climate Change. *Global Warming of 1.5°C*. 6 Oct. 2018. Web. 24 Oct. 2018.

[15] Ibid.

[16] Ibid.

[17] Ibid.

[18] Ibid.

[19] Davenport, Coral. "Major Climate Report Describes a Strong Risk of Crisis by as Early as 2040." *New York Times*. 7 Oct. 2018. Web. 24 Oct. 2018.

[20] Intergovernmental Panel on Climate Change. *Global Warming of 1.5°C*. 6 Oct. 2018. Web. 24 Oct. 2018.

[21] Davenport, Coral. "Major Climate Report Describes a Strong Risk of Crisis by as Early as 2040." *New York Times*. 7 Oct. 2018. Web. 24 Oct. 2018. Intergovernmental Panel on Climate Change. *Global Warming of 1.5°C*. 6 Oct. 2018. Web. 24 Oct. 2018.

[22] Leahy, Stephen. "Climate Change Impacts Worse than Expected, Global Report Warns." *National Geographic*. 7 Oct. 2018. Web. 1 Nov. 2018.

[23] Davenport, Coral. "Major Climate Report Describes a Strong Risk of Crisis by as Early as 2040." *New York Times*. 7 Oct. 2018. Web. 24 Oct. 2018.

[24] Green, Miranda. "Trump Administration Doubles Down on Climate Skepticism." *The Hill*. 15 Oct. 2018. Web. 25 Oct. 2018.

[25] Bastasch, Michael. "Trump Officials Say There's 'A Major Problem' with the UN's Upcoming Climate Report, Leaked Comments Show." The Daily Caller. 3 Oct. 2018. Web. 25 Oct. 2018.

[26] Ebell, Myron. "IPCC Report Reaches Dire Conclusions Based on Models that Overstate Rate of Warming." Competitive Enterprise Institute. 8 Oct. 2018. Web. 28 Oct. 2018.

[27] Gabbatiss, Josh. "IPCC Climate Change Report: What Does It Mean and How Will It Affect Our Lives?" *The Independent*. 8 Oct. 2018. Web. 25 Oct. 2018.

[28] Brettschneider, Brian. "Climate Change Skeptic or Denier?" *Forbes*. 3 Aug. 2018. Web. 26 Oct. 2018.

[29] Harris, Richard. "'Uncertain' Science: Judith Curry's Take on Climate Change." NPR. 22 Aug. 2013. Web. 26 Oct. 2018.

[30] Green, Miranda. "Trump Administration Doubles Down on Climate Skepticism." *The Hill*. 15 Oct. 2018. Web. 25 Oct. 2018.

[31] NASA. "Scientific Consensus: Earth's Climate is Warming." Web. 26 Oct. 2018.

[32] Davenport, Coral. "Major Climate Report Describes a Strong Risk of Crisis by as Early as 2040." *New York Times*. 7 Oct. 2018. Web. 24 Oct. 2018.

[33] Center for Climate and Energy Solutions. "Outcomes of the UN Climate Change Conference in Paris." Dec. 2015. Web. 26 Oct. 2018.

[34] Resnick, Brian. "4 Things to Know About the Paris Climate Agreement." Vox. 1 Jun. 2017. Web. 26 Oct. 2018.

[35] Mooney, Chris, and Brady Dennis. "The World Has Just Over a Decade to Get Climate Change Under Control, UN Scientists Say." *Washington Post*. 7 Oct. 2018. Web. 26 Oct. 2018.

[36] U.S. Energy Information Administration. "What Is U.S. Electricity Generation by Energy Source?" 29 Oct. 2018. Web. 29 Oct. 2018.

[37] Nuclear Energy Institute. "Nuclear Fuel." Web. 29 Oct. 2018.

[38] World Nuclear Association. "Nuclear Power in the World Today." Apr. 2018. Web. 29 Oct. 2018.

[39] World Nuclear Association. "Safety of Nuclear Power Reactors." May 2018. Web. 29 Oct. 2018.

[40] U.S. Government Accountability Office. "Disposal of High-Level Nuclear Waste." Web. 29 Oct. 2019.

[41] Associated Press. "30 Years Later, the Chernobyl Nuclear Disaster in Numbers." 3 Jun. 2016. Web. 29 Oct. 2018.

[42] U.S. Energy Information Administration. "How Much of U.S. Energy Consumption and Electricity Generation Comes from Renewable Energy Sources?" 18 May 2018. Web. 26 Oct. 2018.

[43] Biesecker, Michael. "Labor Department: Solar, Wind Jobs to Boom Over Next Decade." Associated Press. 26 Oct. 2017. Web. 26 Oct. 2018.

[44] Hillinger, Charles. "Hoover Dam—It Will Be Paid Off in Full Today." *Los Angeles Times*. 31 May 1987. Web. 26 Oct. 2018. Overly, Steven. "This Government Loan Program Helped Tesla at a Critical Time. Trump Wants to Cut It." *Washington Post*. 16 Mar. 2017. Web. 26 Oct. 2018.

[45] Brady, Jeff. "After Solyndra Loss, U.S. Energy Loan Program Turning a Profit." NPR. 13 Nov. 2014. Web. 26 Oct. 2018. Greiling Keane, Angela. "Fisker to Sell Assets in Bankruptcy at $139 Million Loss." Bloomberg. 22 Nov. 2013. Web. 26 Oct. 2018.

[46] Gardener, Timothy. "EPA to Relax Fuel Efficiency Standards for Autos." Reuters. 2 Apr. 2018. Web. 26 Oct. 2018. Eisenstein, Paul. "Trump Administration Moves to Revoke Obama-Era Fuel Economy Standards." NBC News. 2 Aug. 2018. Web. 26 Oct. 2018.

[47] Environmental Protection Agency. "Sources of Greenhouse Gas Emissions." Web. 26 Oct. 2018.

[48] Dennis, Brady, Michael Laris, and Juliet Eilperin. "Trump Administration to Freeze Fuel-Efficiency Requirements in Move Likely to Spur Legal Battle with States." *Washington Post*. 2 Aug. 2018. Web. 26 Oct. 2018. Eisenstein, Paul. "Trump Administration Moves to Revoke Obama-Era Fuel Economy Standards." NBC News. 2 Aug. 2018. Web. 26 Oct. 2018.

[49] Alliance of Automobile Manufacturers. "Auto Employment." Web. 26 Oct. 2018.

[50] U.S. Energy Information Administration. "Petroleum, Natural Gas, and Coal Still Dominate U.S. Energy Consumption." 3 Jul. 2018. Web. 26 Oct. 2018.

[51] Barclay, Eliza, and Umair Irfan. "10 Ways to Accelerate Progress Against Climate Change." Vox. 13 Oct. 2018. Web. 26 Oct. 2018. Ye, Jason. "State Carbon Pricing Policies." Center for Climate and Energy Solutions. Sep. 2018. Web. 26 Oct. 2018.

[52] U.S. Energy Information Administration. "United States Remains the World's Top Producer of Petroleum and Natural Gas Hydrocarbons." 21 May 2018. Web. 26 Oct. 2018. BP. "Coal Reserves." 2017. Web. 26 Oct. 2018.

[53] Davenport, Coral. "Major Climate Report Describes a Strong Risk of Crisis by as Early as 2040." *New York Times*. 7 Oct. 2018. Web. 24 Oct. 2018.

[54] Roberts, David. "The 5 Most Important Questions About Carbon Taxes, Answered." Vox. 18 Oct. 2018. Web. 26 Oct. 2018.

CLOSE UP
WASHINGTON DC

EXPERIENCE CLOSE UP

Each year, the Close Up Foundation helps more than 20,000 students and teachers, in 1,200 schools nationwide, develop the skills they need to begin a lifetime of active citizenship. We accomplish this through our classroom publications, professional development, and Washington DC-based programs.

CLOSE UP IN CLASS: Enhance your classroom curriculum with resources from our three resource libraries that help students investigate current events and understand the critical issues facing our democracy.

- **Controversial Issues in the News:** Help students develop a greater understanding of current issues in the news. Receive a new chapter each month!
- **Public Policy In-Depth:** Delve into public policy issues with these long-form policy units that offer background, analysis, and informed debate.
- **Historical Perspectives:** Explore key moments in U.S. History through primary source records, literature, video, and virtual reality experiences.

PROFESSIONAL DEVELOPMENT: Our professional development and training provide teachers with the strategies and resources to facilitate meaningful discussion and debate of current issues.

CLOSE UP WASHINGTON, DC PROGRAMS: Choose from a variety of programs offered year-round to experience government in action and bring history to life—or customize your own journey for a one-of-a-kind experience!

For more info about the resources or professional development for your school or district, please visit us online at **www.currentissues.org** or contact us at **703-706-3665** or **classroom@closeup.org.**