WHERE HARRIS AND TRUMP STAND ON SCIENCE AND TECHNOLOGY POLICY ISSUES

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Across the United States, there are significant efforts to encourage university students to vote. University of Michigan, for example, has created UMICH Votes to increase student voter turnout. These efforts are succeeding—student voting rose from 52% in the 2016 presidential election to 66% in 2020. However, students in STEM fields consistently vote at lower rates than their counterparts.

To help address this deficit, students involved with University of Michigan's Science, Technology, and Public Policy (STPP) Program at the Gerald R. Ford School of Public Policy, have summarized the two main presidential candidates' positions on issues likely to be of interest to STEM students: scientific research funding, technology policy, immigration policy, energy policy, environmental policy, and environmental justice policy.

SCIENTIFIC RESEARCH FUNDING

Photo Credit: Lawrence Jackson from GPA Photo Archive

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HARRIS

Although Vice President Harris has not proposed any specific policies related to scientific research funding, her work during the Biden Administration indicates that she will be a strong supporter. In particular, she is likely to prioritize investments in climate and biomedical research, as well as applied research and development in areas like AI, semiconductors, and quantum computing to enable the United States to remain competitive with China. One of the Biden administration's most important accomplishments in science and technology policy was the CHIPS and Science Act, which earmarked $39 billion for semiconductor manufacturing facilities and $11 billion for research into new chip technologies. It also established a new Directorate for Technology, Innovation, and Partnerships within the National Science Foundation, to support technology commercialization, regional innovation clusters, and STEM training. The Biden Administration also created the Advanced Research Projects Agency for Health (ARPA–H) to support high-risk, high-reward biomedical research and accelerate the commercialization of resulting technologies and restarted the Cancer Moonshot (which began during the Obama administration), which aims to cut cancer related deaths by half and had been paused by the Trump Administration. Finally, Harris has expressed strong support for the climate science research conducted by the EPA, NASA, and the NOAA; the Biden administration also tried to increase funding for these agencies.

TRUMP

Donald Trump is likely to continue federal support for scientific research during a second term, but investment priorities and the personnel overseeing research programs will likely shift. While the first Trump administration increased basic research funding and championed research in critical future technologies, such as artificial intelligence and quantum computing, the administration also deprioritized climate and renewable energy research in its annual budget proposals. For his second term, Trump is proposing additional defense technology investments, including an Iron Dome Missile Defense Shield.

Trump has not discussed specific plans for the National Institutes of Health (NIH), but the Heritage Foundation's Project 2025, which Trump has publicly disavowed despite his and his Vice Presidential candidate's many connections to the project, proposes an NIH overhaul with budget reductions; departmental consolidation; increased political oversight, including reclassifying civil service employees, making it easier to fire them and banning federally funded research that uses embryonic stem cells.

Trump's plan to exert more direct control over federal agencies, not only through civil service reclassification but also his political appointments, is likely to politicize research agendas and endanger non-partisan assessments of scientific data within federal agencies.

Technology Policy
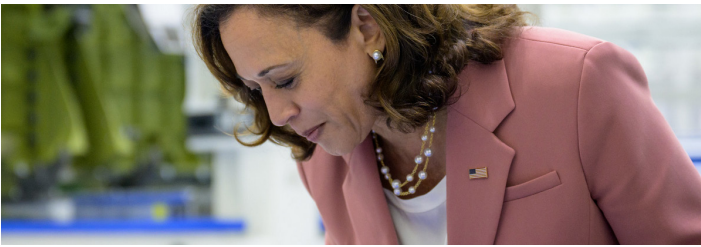

Photo Credit: Bill Ingalls from NASA HQ Photos

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HARRIS

Harris has supported significant investments in emerging technologies to maintain the U.S.'s role as a leader in the AI industry, while also advocating consumer protections. The Biden–Harris Administration, for example, announced a $504 million investment into Tech Hubs to help grow innovation in the U.S. to promote artificial intelligence and clean energy. At the same time, Harris has supported the establishment of the United States AI Safety Institute, which aims to increase transparency to mitigate AI risks and protect consumer privacy. While in the Senate, Harris voted "Yes" on an unsuccessful effort to exclude content relating to sex trafficking from Section 230 of the Communications Decency Act. Section 230 states that tech companies cannot be held liable for content generated by its users. As California's Attorney General, Harris created the Privacy Enforcement and Protection Unit to protect consumers and their online privacy, as well as the eCrime unit to prosecute identity theft, data intrusions, and crimes involving the use of technology.

TRUMP

Former President Donald Trump's tech policy aims to prioritize American innovation and national security, largely through increased investments, deregulation, and tariffs. The former president supports the development and use of artificial intelligence in consumer, enterprise, and military applications. In 2019, he established the American AI Initiative through an executive order, which increased federal government investments in AI research and AI-related workforce development. The CHIPS and Science Act, passed during the Biden Administration, expanded these investments. During his first term, Trump also instituted multiple tariffs, especially on China, in the hope that this would stimulate innovation. During his second term, Trump aims to expand these tariffs. He also seeks to repeal Biden's Executive Order on AI, which regulates the federal government's use of AI with particular attention to equity, civil liberties, and civil rights. Trump also plans to relax antitrust merger enforcement, as well as regulations on AI and cryptocurrency.

IMMIGRATION POLICY

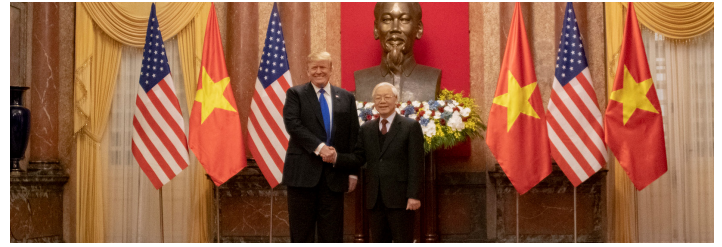Photo Credit: Office of the Attorney General of California

Photo Credit: Ron Przysucha from U.S. Department of State

HARRIS

Vice President Harris aims to expand opportunities for highly skilled immigrants in STEM fields while bringing a sympathetic but tough perspective to illegal immigration and border security.

> In 2019 as a California Senator, she introduced the Fairness for High-Skilled Immigrants Act which would remove caps for employment-based green cards in order to allow skilled immigrants to contribute to the U.S. economy.

She also supported the U.S. Citizenship Act of 2021 which would allow for STEM graduates from U.S. universities to apply for permanent residency and also reform the H1-B visa process with the goal of keeping foreign talent in the country. Through the Biden administration, she announced a commitment to growing the AI workforce. Overall, Harris's support for increasing the number of visas for STEM students and skilled workers demonstrates a commitment to drawing in international talent to drive U.S. innovation. While Republicans have criticized the Biden Administration for relaxing restrictions and rolling back previous border measures, Harris has stated repeatedly that she—like President Biden—supports the bipartisan Senate legislation (which former President Trump prevented from coming to a vote) that would give more resources to border control agents to prevent illegal immigration while simultaneously supporting skilled immigration.

TRUMP

While former President Trump frequently says that he favors "high-skilled" immigrants (or highly skilled, meaning foreign-born workers with formal higher education that are eligible for special work visas to the U.S.) including those in STEM fields, he has a long and famous record of antipathy towards all immigrants. This past summer, he promised permanent residency for any foreign-born graduates of U.S. colleges and universities. However, when he was President, he restricted skilled legal immigration, including student visas, and increased denials of visa petitions for foreign-born, highly skilled workers. Similarly, the Project 2025 policy playbook, which was written by close Trump allies (although he has disavowed it), promises a merit-based immigration system. But, it also includes proposals to eliminate or significantly reduce student visas (particularly those from "enemy" nations).

Meanwhile, Trump is likely to leverage emerging science and technology to carry out his immigration policies. During his administration, Trump tried to create a "virtual border wall", contracting with a private firm to deploy mobile surveillance towers, equipped with cameras and thermal imaging software, at the Southern border. The Biden Administration expanded this "virtual border wall."

ENERGY POLICY

Photo Credit: Office of the Attorney General

Photo Credit: D. Myles Cullen from Whitehouse.gov

HARRIS

While she has not addressed specifics, we expect a President Harris to continue the Biden Administration's approach to energy policy which includes a green energy transition while maintaining or increasing fossil fuel production. As Vice President, she helped to pass and implement the Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL), which both encourage green energy adoption. BIL increased investments in nuclear and hydroelectric energy, while the IRA massively expanded government and private sector investment in wind and solar projects. The IRA also provides tax credits for individuals and companies implementing clean energy technologies, including solar, wind, and geothermal energy, in their homes or businesses. It contains additional provisions to increase home energy efficiency and reduce at-home use of fossil fuels, such as credits for installation of heat pumps and electric stoves. Taxpayers can also claim credits based on the amount of green energy they produce.

The Biden Administration has increased regulation of fossil fuels, to reduce methane leaks from natural gas pipelines and increase the royalties that companies pay for gas production on federal lands. However, it has also increased domestic oil and gas production, including through fracking. Although Harris opposed fracking during her short-lived 2020 presidential campaign, she has since reversed her position, stating that she supports the practice as a comprehensive approach to maintaining energy independence.

TRUMP

Donald Trump supports what he describes as a robust and independent domestic energy market, fossil fuel industry growth, energy industry deregulation, and reduction of government support for clean energy.

During his administration, he repealed many aspects of the Obama administration's Clean Power Plan and withdrew from the Paris Accords, which he intends to do again. He also imposed large tariffs on solar panels, which President Biden eased but did not eliminate. If re-elected, former President Trump would invest in diverse sources of energy, especially that of oil and natural gas, to increase US energy dominance and independence with the aim of curbing inflation and reducing oil, gas, and electricity costs. He also plans to increase tariffs on Chinese solar panels, end the pause on liquified natural gas exports, and increase construction of fossil fuel infrastructure including the Keystone XL and Dakota Access pipelines. Trump also plans to remove what he sees as barriers to fossil fuel production including regulations and corporate environmental, social, and governance programs. While he is not completely opposed to clean energy and has promised to create incentives to help the transition to clean energy sources, he is against the clean energy tax breaks and subsidies provided through the Inflation Reduction Act, believing federal spending in these areas to be excessive. He is also against electric vehicle production mandates as another aspect of his policy focuses on reviving the automotive industry.

ENVIRONMENTAL POLICY

Photo Credit: Environmental Protection Agency

Photo Credit: Michael Vadon

HARRIS

The Harris campaign aims to tackle climate issues by promoting decarbonization, strengthening renewable energy infrastructure, enforcing accountability for polluters, and implementing robust environmental protections. Her recent economic plan introduced America Forward tax credits to reduce industrial steel emissions, invest in sustainable energy sources and technologies, and enhance grid resilience to climate disasters. This approach builds on her extensive climate advocacy, including a $10 trillion climate plan released during her 2019 presidential campaign, calling for renewable energy investment, holding polluters accountable, assisting communities most affected by climate change, and green job creation. As California attorney general, she launched an investigation against Exxon for environmental violations. Harris has also been a vocal supporter of the Inflation Reduction Act (IRA), which seeks to achieve a 40% reduction in greenhouse gas emissions by 2030 through diverse means, including green infrastructure expansion. In a recent statement, she praised the IRA for its effectiveness in addressing the climate crisis, reaffirming her commitment to its objectives.

As Vice President, Harris helped streamline the National Environmental Policy Act (NEPA) review process, an important safeguard that promotes environmental protection particularly as the nation addresses climate issues. Environmental review expansions were also integrated in the Biden-Harris administration's approach to addressing air and water pollution. The Biden-Harris administration has also bolstered the EPA's funding, enabling it to dole out grants for community-driven solutions to climate pollution.

TRUMP

Because he views environmental protection policies as detrimental to economic growth, President Trump is dedicated to continuing to dismantle them in his second term. He is skeptical of man-made climate change, and the Republican Party's 2024 platform makes no explicit mention of the issue. His policies focus largely on boosting fossil fuel production and reducing its regulation. During his first term, his administration reduced fuel economy standards for cars and weakened rules limiting and requiring reporting on methane emissions from oil and gas production. He replaced the Obama administration's Clean Power Plan (CPP), which the US Supreme Court ruled was unconstitutional, with the Affordable Clean Energy Rule (ACER). While the CPP would have reduced greenhouse gas emissions by 32%, ACER reduces them by 1%. And, he withdrew the United States from the international Paris Agreement on climate change during his first term, and while President Biden signed back on, Trump promises to step back again during a second term. On his first day of a second term in office, he plans to undo what he calls President Biden's "electric vehicle mandate," which includes incentives for electric vehicle adoption and targets for zero emissions vehicles to comprise half of all new vehicle sales by 2030. He argues that such policies will stimulate private sector development.

Trump's regulatory rollbacks are not restricted to fossil fuels. In his first term, he issued an executive order stating that for every new regulation enacted, two must be eliminated, which had profound impacts on the environment; he rolled back over 100 rules, including those governing clean air, water, wildlife, and toxic chemicals, on the basis that they were hurting the private sector.

ENVIRONMENTAL JUSTICE POLICY

Photo Credit: Environmental Protection Agency

Photo Credit: The White House

HARRIS

Vice President Harris has a strong record of creating and supporting environmental justice policies. Her campaign website embraces her role in passing the Inflation Reduction Act, which includes historic green investment in over-polluted and disadvantaged communities through the Justice 40 initiative, and states her continued commitment to advancing environmental justice. As San Francisco's District Attorney, Harris created an environmental justice unit to prosecute environmental crimes against the city's poorest communities. While in the Senate, she sponsored four bills explicitly focused on addressing environmental justice concerns. This included the Environmental Justice for All bill, which would have incorporated environmental justice into a wide range of federal agency decisions and enabled environmental justice communities to sue when they experienced "disparate impacts" by race, color, and national origin.

However, Harris has recently changed her stance on fracking, which could weaken her commitment to environmental justice. While she opposed the practice during her 2020 presidential campaign, she switched her position after joining the Biden administration. She justifies the change by advocating a comprehensive energy approach. It is also an electoral consideration: in Pennsylvania, a crucial swing state, fracking has produced jobs and generated tax revenues that have funded multiple government programs from environmental programs to first responders. However, fracking wells are disproportionately located in poor and minority communities where they contaminate the water and air, causing health problems among the local population.

TRUMP

Trump never mentions environmental justice by name, but his broader environmental policy goals—deregulating domestic energy production and narrowing the EPA's scope—will weaken environmental justice initiatives. While in office, Trump successfully loosened nitrogen oxide, coal ash, and mercury emissions standards for power plants and other industrial sites, which are disproportionately located near low-income and communities of color. Despite his silence on environmental justice, Trump has disparaged other policy frameworks that explicitly target marginalized populations, including DEI and affirmative action. The Trump administration proposed eliminating the EPA's Office of Environmental Justice entirely, although only minor cuts were ultimately enacted. In Project 2025, Trump EPA chief of staff Mandy Gunasekara recommends that the agency reabsorb its "environmental justice function" into the Administrator's Office, so a second Trump administration will likely double down on these cuts.

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*denotes students in STPP's graduate certificate program.

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