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The Biden Presidency

Biden's Science Policy: U-Turn from Trump

By Cung Vu

SYNOPSIS

President Biden has announced his nomination of Eric Lander as his chief science advisor and director of the Office of Science and Technology Policy (OSTP) and at the same time elevated this dual-hatted position to a Cabinet rank. This reflects the desire of the new administration to give science a prominent role to guide its strategy and policy.

COMMENTARY

ON 15 JANUARY 2021, President Joe Biden announced his Science Advisor Team, underscoring the new administration's policy of being guided by "science, facts and truth". Biden nominated Eric Lander as his chief science advisor and director of the Office of Science and Technology Policy (OSTP). Lander is a mathematician and geneticist who helped map the human genome as well as president and founding director of the Broad Institute jointly run by Harvard University and the Massachusetts Institute of Technology.

At the same time Biden elevated this dual-hatted position to cabinet level. Biden also appointed a Princeton social scientist Alondra Nelson as the deputy chief science advisor. To co-chair the President's Council of Advisers on Science and Technology, Biden nominated Frances Arnold and Maria Zuber. Arnold is California Institute of Technology's chemical engineer, an expert in protein engineering and the first US woman to win the Nobel Prize in Chemistry. Zuber is MIT's geophysicist and the first woman to lead a NASA spacecraft mission. She has also chaired the National Science

Board. Biden is keeping Francis S. Collins, current director of the National Institutes of Health as a member of the Science Advisor Team.

Significance of the Elevation

By elevating the chief science advisor and director of the OSTP to the president's cabinet, the new administration is clearly planning to give science and technology a much bigger role in strategy and policy development. This is timely given the myriad challenges facing the United States.

Biden has already tasked the Science Advisor Team to focus on five key areas: combat public health threats; mitigate the impact of climate change; keep the country a world leader in innovation; use science to improve social equity; and strengthen the US research enterprise.

The OSTP director leads interagency science and technology policy coordination efforts to advise the president on the scientific, engineering, and technological aspects of the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources, and other areas.

As the position of presidential science advisor/director of OSTP is elevated to the cabinet rank, Lander needs to be confirmed by the Senate. This dual-hatted position did not have to go through Congress confirmation in the past.

U-turn from Trump's Science Policy

The elevation of the science advisor and director of OSTP to cabinet-level marked a U-turn from the science policy of the former president Donald Trump who spent much of his term downplaying scientific data and evidence. His unilateral pullouts from the World Health Organisation (WHO) and the Paris Climate Accord have damaged international scientific cooperation and the health and safety of the human race.

He also pushed for the promotion of coal and fossil fuels and the elimination of environmental regulations. He downplayed the severity of the COVID-19 pandemic by telling the country not to worry about the coronavirus because it was "mild" and "like a flu". He regularly rejected public health guidance.

Trump's repeated public dismissals of scientific expertise, and his disdain for evidence have prompted the US National Academy of Sciences and the National Academy of Medicine to issue a joint statement in October 2020 that "Policymaking must be informed by the best available evidence without it being distorted, concealed, or otherwise deliberately miscommunicated". Even though the joint statement did not name Trump, it was clearly aimed at the then president.

In contrast, Biden signed executive orders to rejoin the Paris Climate Accord and re-engage the WHO on his first day in office. He plans to re-direct an unspent fund in the Department of Energy for clean energy, followed by trillions of dollars to achieve net-zero emissions on the power grid by 2035 and economy-wide by 2050.

For the COVID-19 pandemic, Biden vowed that "our administration will lead with

science and scientists from the Centre for Disease Control, National Institutes of Health and Food and Drug Administration, totally free from political influence whose decisions are based on science and science alone”.

The new administration also plans to apply science to helping fix America’s appalling inequalities of income and race. The level of expectations for the US returning to its former prominent role on global climate policy, healthcare research, environmental protection has risen around the globe.

Long Lasting Impacts?

Whether future administrations keep the presidential science advisor and director of OSTP a Cabinet rank remains to be seen but the Biden administration is the first one in US history to do so; it is determined to make science and technology its main theme to re-energise the science, technology and innovation in the US.

The first science advisor, Vannevar Bush, served Presidents Franklin D. Roosevelt and Harry S. Truman from 1941 to 1951. Bush essentially expanded the role for government in research and pressed for the creation of the National Science Foundation. Prior to that, research was largely a philanthropic activity that existed in parallel with education. There was not really a large government role in scientific research.

During the postwar period, a number of federal research organisations were created including Oak Ridge National Laboratory, Los Alamos National Laboratory, Atomic Energy Commission (AEC), the National Science Foundation (NSF), the Defence Advanced Research Project Agency (DARPA), and the National Aeronautics and Space Administration (NASA).

These organisations have laid the foundation for space exploration, integrated circuits, computers, Internet, global positioning systems, and other science-related breakthroughs that we all enjoy the benefits of today.

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