

Science Policy: No Longer an “Exotic Nice-to-Have Thing”

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The community of people who do science policy has long been something of a cipher. In the late 1960s, journalist Dan Greenberg reported that it comprised a “remarkably small number of people”—he estimated between 200 and 1,000. In 1964, political scientist Robert C. Wood described the “consistently influential” science policymakers as “an apolitical elite” of just a few hundred people. Unlike, say, people who did trade policy or diplomacy, conventional wisdom held that those doing science policy occupied a separate, rarified category. Dual practitioners of science and of policy, they worked behind the scenes, meeting at cocktail parties for those in the know, rather than at conferences with the hoi polloi. If they had an allegiance, it was presumed to be for science and its funding more than any political party or particular industry.

But was this description ever true? By 1984, when *Issues* was founded, the community was certainly much larger, and pathways into the field, such as fellowships, were already established. Still, by 2020, when I joined this magazine, science policy was all but invisible in the mainstream media. This amazed me given the ubiquity of regulated technologies in our lives, the magnitude of legislation like the Bipartisan Infrastructure Act and CHIPS and Science, and the myriad decisions that influence taxpayers’ \$210 billion annual investment in research and development.

When the *Issues* editorial team was deliberating how to celebrate the magazine’s fortieth anniversary, David May, the chief communications officer at the National Academies of Sciences, Engineering, and Medicine, suggested doing a survey of *Issues*’ readers. We loved the idea—it seemed like a new way to extend the magazine’s conversation. And it would offer a chance to get a baseline sense of who the community is today and how we can better serve it, and perhaps establish a regular survey.

Eager to find out how the science policy community defines itself, the editorial team brainstormed survey

questions about who practitioners are, where they work, what they do day-to-day, what motivates them, and which current and future issues concern them most.

We were particularly aware of the different generations that would take the survey, in part because we have them in our staff. Associate editor Kelsey Schoenberg had taken notice of just how often *Issues* writers refer to the Congressional Office of Technology Assessment (OTA), even though it ceased to exist in 1995—before she was born. So we included her intentionally cheeky question: “On a scale of 1 to 100, how much do you miss the OTA?”

And then, with the help of many friends and colleagues, we sent the survey out into the world.

Within a week or so, digital engagement editor Kim Quach got a note from John Andelin, once assistant director of the OTA, who wrote, “... on missing OTA. I’d have said 100, but shaved it a bit.” (Andelin explained his long and exciting career in a wonderful oral history with Caltech’s David Zierler in 2022.)

In his email, Andelin also raised a provocative thought: perhaps there are people who do science policy without realizing it. “In about 1972, while working on the Hill in a member’s office, I was asked to give a speech on ‘science policy.’ I mentioned it to a colleague, saying that I didn’t know anything about it. His response, after laughing, was that that’s what I did.” That, Andelin wrote, was when it dawned on him that helping the House’s Subcommittee on Energy and being an unofficial science advisor to a congressman counted as science policy. “I mention this,” he concluded, “because there may be fully involved science policy folks who might not label themselves that way and might not think to respond to your survey.”

In the end, 784 of you answered the survey, suggesting that there are thousands of people between 19 and 90 living the science policy life and identifying as such. I want to pause here to note that the survey took more than 14 minutes on average to complete, so this community has given up more than 180 cumulative hours of your precious time. Thank you.

We appreciate your generosity, and we're reading all the comments you left in the monster spreadsheet we compiled.

At this point, we don't know whether our sample is representative of the larger community. But the data we have show—as former *Issues* editor Josh Trapani and our graduate student assistant Katherine Santos Pavez write in this issue's Real Numbers—that the profession is expanding and evolving across many dimensions. Once largely a career for men, today practitioners under 45 are increasingly likely to identify as women. And, although it was once considered elitist, more than half of respondents said the field has become more open and inclusive in recent years. Interestingly, the youngest were *most* likely to agree, suggesting that this has been their direct experience.

Today, those in the field are far less likely to think of themselves as working for science (e.g., advocating for more research funding) than to see themselves as taking a wider societal role, such as influencing policy and regulation and bringing science to society. This reflects, I think, a growing awareness of science policy as an occupational identity, with some sense of mission and societal obligations.

In response to open-ended questions about their biggest concerns in science policy, an overwhelming number of people mentioned artificial intelligence and climate change. This makes sense, but I found the less common answers interesting as well. Fifty-two people mentioned aspects of space policy, including space mining, space exploration, satellite and debris management, and planetary defense from asteroids. Likewise, there were many mentions of brain science, research security, biosecurity, open science, misinformation, quantum computing, and information science. This list looks a lot like a table of contents for any edition of *Issues*—but I was surprised to find few mentions of antibiotic resistance, sustainable development goals, water, or solving community problems.

The tensions of doing science and technology policy appeared in answers to our question about what topics would be of concern 40 years from now. On the whole, respondents foresee that tomorrow's issues will be largely the same as today's, but their reasons differ in ways that show the professions' frustrations. For some, science's challenge is evergreen. “The hot topic 40 years from now will be exactly the same as it is today: What innovations will generate more value from science?” one respondent wrote. But for other people, the topics will remain the same because society has failed to deal with the underlying problems. “The underinvestment and underutilization of American domestic STEM talent, especially people of color, is tied into broader societal struggles with racism, classism, elitism, sexism, etc., and there is no indication that these society-level issues will be resolved in the next 40 years,” someone else said. And for others, there is an awareness that science policy itself has failed to solve the problems it sought to address: “How did we

end up in this state, and is there a path we could have taken 40 years ago to have ended up somewhere preferable?”

And so, with apologies to those who detested the question (and told us so), the answers display an introspection about what the field is trying to do, how it should conduct itself in the future, and the cost of failure.

In responding to a question about barriers for the field, some people took the opportunity to talk about their worries. For example, one respondent questioned whether science and technology policy practitioners are equipped for the job they do. “The S&T policy community is extraordinarily different than other federal policy communities in that it is still dominated by practitioners in the natural sciences who enter S&T policy jobs with no formal training in the field (myself included), and decisions about where to invest are dominated by expert opinion and rarely by policy analysis, given the paucity of systematic data about the ultimate uptake and use of research outputs.”

Similarly, another writer wrote that it's time for science policy to abandon its exceptionalism. “By separating science and society, those looking to advance policy constantly have to lead with exposition on what science is, why it's important, etc. This results in an elitist presenter/audience dynamic, which will hamper effective policy, due either to alienation or ignorance (often both). It may be a subtle idea, but ‘science policy’ should be seen as a flavor of public policy, just as ‘defense policy’ or ‘environmental policy’ or ‘fiscal policy’ are—not some exotic nice-to-have thing.”

Perhaps the route to becoming just another kind of policy can be found by bridging that divide between science and society. One respondent wrote that the role of science needs to be reframed: “The need is NOT of scientists in the public square; the need is for more public in the science square.” And another saw that the field needs to understand the role it already plays in society, “with the steady march of technology over the past forty years having steadily empowered individuals (and their ability to do societal harm)” requiring a reconsideration of the balance between individual rights and societal obligations. In a parallel vein, another writer called for a more active engagement with what science's social goals are: “What kind of society do we want and how does science contribute to that?”

OK, you may be wondering, so how much *did* survey respondents miss the OTA? Out of 672 people who answered the question, 40% named numbers between 80 and 100. This suggests that the OTA is not forgotten, but it may be joining the pantheon of science policies past, alongside the Manhattan Project, the Apollo moon shot, SEMATECH, and Operation Warp Speed. The bigger and more interesting question is: What does this community want its future to look like?

A clean version of survey data is available for anyone who would like to work with it. Look for notifications about further discussions of the survey in our Friday newsletter. And we hope to do another survey in future years and welcome your input on what questions it should contain.