

# World view



By Arti Garg

## Calling all scientists: show up in your local communities

**Researchers and engineers have the skills, and often the desire, to get involved with local policymaking efforts. They should take the plunge; it is more rewarding than it seems.**

**F**rom tackling the COVID-19 pandemic to addressing climate change, the success of most policies depends on how they are implemented on the ground. This responsibility usually falls to local governments, municipalities and community-based organizations. They must respond to wildfires, heatwaves and disease outbreaks, for instance, and judge how to safely embed autonomous vehicles into traffic. But it's hard for local bodies to access all the knowledge they need to make decisions. Scientists and engineers can help. And, in my experience, they often want to, but don't always know how.

That's why I started Engineers & Scientists Acting Locally in 2017, a US non-profit organization dedicated to increasing local civic engagement by people in science, technology, engineering and mathematics. As a technologist working in California, I missed my former policy work as a legislative adviser for the US Congress and an analyst at the White House. So I applied to join a task force in my local city of Hayward. I found that my professional and community work intersected in a way that enabled me to make a difference where I lived, and I realized many others might wish to do so, too.

How can scientists engage locally? My advice is to 'show up' and participate actively in civic decision-making.

For example, in 2020, at the onset of the COVID-19 pandemic, researchers at the University of California, Berkeley, partnered with wastewater treatment agencies, local and state public-health departments and the state water board. Together, they analysed waste water to track the spread of the SARS-CoV-2 virus and identify local hotspots.

Because of the sensitive nature and public-health implications of the information, data sharing was an issue. Only local government officials received data not available to the public, including from wastewater analyses and contact tracing. They then decided how and when to share estimated infection rates with the public. This collaboration required building trust between parties and having a common cause. Moreover, as an emerging area of research, it required innovative methodologies that were still under development. Despite the scientific unknowns and the difficulties, by working together with local decision makers, the researchers were able to help to improve their community's pandemic response (B. M. Pecson *et al. Environ. Sci. Water Res. Technol.* 7, 504–520; 2021).

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Volunteering your time can also be beneficial.

Over the past decade, I've held several appointments with my municipal government, most recently as a planning commissioner. I've engaged with issues well beyond my training in astrophysics and aerospace engineering and day job in artificial intelligence and advanced computing. Although such roles are open to anyone in the community, my ability to interpret scientific research has been invaluable for informing decisions in areas ranging from early HIV intervention and public safety to addressing the impacts of historical racism.

So, where does one begin? Approaching your local government might feel daunting. You might lack spare time. And you might worry that engaging in policy-oriented discussions could impact your reputation as an objective scientist. Let's address these one by one.

First, in a democratic society, many local government meetings are open to the public. They are a great place to learn how decisions are made, meet like-minded community members and potentially find a stepping stone to deeper engagement. For scientists, observing these policy-making processes can feel like a natural entry point, because it taps into our tendencies to gather data and form theories about unfamiliar things. As researchers become more actively involved in policy making, their insights expand and they can bring innovative perspectives to problem solving.

Second, it is true that consistent civic engagement takes time. But if you are willing to put in some effort, there are probably opportunities that fit your availability. Some local committees meet monthly or quarterly. Chats over coffee can build a relationship with elected leaders, as can sharing your perspective at official meetings. However, I have seen that most people find civic engagement so rewarding that they seek to increase it over time.

Finally, scientists are often passionate individuals. The choice of a scientific career often stems from a desire to make a difference in the world. Physicists, like me, have long engaged in policy discussions, particularly for the governance of nuclear technologies, which necessitates deep technical expertise. For issues such as the use of artificial intelligence, for which technical information evolves quickly and the risks of making poor decisions can be high, I would posit that scientists have a responsibility to society to engage proactively.

The idea that researchers must remain objective and dispassionate is misguided, in my view. It is also impossible to achieve – scientists are human and full of biases. In reality, it is the scientific method that allows biased and passionate people to objectively and systematically assess information and draw conclusions. These skills, and a desire to improve their communities, are what make scientists and engineers uniquely valuable in local decision-making.