

Introduction to Science Policy

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Introduction

Scientific research and expertise plays an important role in informing legislative decisions and guiding policy. However, there is a communication disconnect between the scientific community and policy makers all over the world. To address this, more scientists need to engage in the conversation, advocate for good science policies, learn to communicate findings efficiently and with relevance, and even become policy makers themselves.^{1,2,3}

What is Policy

The CDC defines policy as “a law, regulation, procedure, administrative action, incentive, or voluntary practice of governments and other institutions. Policy decisions are frequently reflected in resource allocations.”⁴

What is Science Policy

Science policy is a multifaceted field that encompasses funding for science research and education, to policies that require scientific input to make the best decisions for the desired outcome. This includes public health decisions, energy investments, transportation and housing, and environmental protections, to name a few. Scientists are critically needed to communicate scientific results to policy makers, as well as engage in science-based advocacy. Scientific research and expertise is needed to inform legislative decisions and guide effective policy that benefits both society and the environment.

Here are **Policy One Pagers** from NSF that show examples of how data can be consolidated into concise informational material for policy makers and the public.



Guide to Engaging in Policy

Analyst vs Advocate

Engaging with public perceptions of scientific information can be difficult to navigate. Many worry their science will be misconstrued or politicized or that they will not be taken seriously due to personal bias. Scientists have a unique and important viewpoint that is crucial to shaping and implementing good policies. However, scientists do have to consider how they want to be perceived by both policy makers and society when deciding to give input on a topic that requires their viewpoint, understanding, and expertise. Always consider your own biases on a subject matter and let it inform how you proceed and decide to frame your position.

Are you an analyst who is just interpreting and communicating data?
Or are you an advocate who is using that data to push for certain policies?

Practice communication skills

Communicating scientific research is a huge challenge for many scientists. Dictating a concise, descriptive narrative while also advocating for specific policies using scientific information is not an easy task. A great way to start is to write an executive summary, outlining:

- **Why does this matter to you? Personal stories go a long way.**
- **Why should it matter to them?**
- **How will it affect the all aspects of society?**
- **The scientific results that support your position.**

-Avoid highly technical results and jargon.

From there, work on making this a concise pitch you can give in 2-3 minutes.¹⁻³

You do not need them to understand your highly specific research, you just need to convey the results that support your position.

Communicate with your Elected official

Whether it is your city council member or your senator, your representative will take your call and note your position. Don't be afraid of calling or emailing them with your outline or pitch. Believe it or not, elected officials want to hear from you and your community!

Engage in Science Policy at Conferences

As scientists, we need to focus on the conversation of policy more. Conferences are a great opportunity to discuss different types of policies with colleagues all over the world. Understanding what is happening everywhere can help inform best practices for engaging policy makers and inform which policies to advocate for.¹⁻³

Discuss Science Policy at your Institution

Some institutions have begun to create programs to help train and teach students how to connect scientific research and public policy, however, more needs to be done to train scientists on how to be good scientific communicators in this context.³

Publish research Open-access when possible

Policy makers, and the scientists that work for them, do not always have access to scientific journals. Publishing open-access can begin to bring down the information barrier between the two communities.³



CLEAN ENERGY
INSTITUTE

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Opportunities

At the University of Washington:

The Advanced Experience Program in Clean Energy --- Torrance Science Policy Analysis Track

Partnered with the Washington State Academy of Sciences, is a Graduate student program which gives students experience with communicating STEM ideas to decision makers with broad backgrounds.



ENGAGE: The Science Speaker Series and Seminar

A graduate student level course which aims to give science students access to science communication training.



After UW:

IDA's STIP Science Policy Fellowship

A two-year fellowship working for The Institute for Defense Analyses' Science and Technology Policy Institute, provides those with a **bachelor's degree** an opportunity to work on a diverse set of challenges in science and technology policy areas.



AAAS Science and Technology Policy Fellowships

A year long fellowship in the executive, legislative, and judicial branches of government, gives scientists and engineers with PhDs the opportunity to get firsthand experience working with policy makers.



California Science and Technology Policy Fellowship

A year long fellowship working directly with policy makers in Sacramento, California through the California Council on Science and Technology. The fellowship aims at training PhD scientists and engineers to help inform decision makers.



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3. Gaieck, W.; Lawrence, J. P.; Montchal, M.; Pandori, W.; Valdez-Ward, E. Science Policy for Scientists: A Simple Task for Great Effect. *Proceedings of the National Academy of Sciences* 2020, 117 (35), 20977–20981.
4. Definition of policy. <https://www.cdc.gov/policy/analysis/process/definition.html> (accessed May 24, 2022).

1. Boehlert, S. L. The Role of Scientists in Policymaking. *AAAS_CSPO S&T Policy Review* **2007**.
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