Science Policy 101

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PermafrostNet
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Module Overview

- An introduction to science policy
- Actors and factors that influence decision-making in the science policy interface
- Tips and ways to engage in the science policy interface
- Implementing research in community planning

Module Summary

- Science policy includes both science for policy and policy for science.
- The actors involved in the science policy interface include stakeholders in the science community, different sectors (such as industry), and at the various levels of government.
- Elected representatives gather their research and evidence from a variety of sources and highly value credibility when it comes to decision-making.
- There are numerous ways to engage in science policy, ranging from signing a petition, engaging with an elected representative, to even running for office.
- Implementing evidence in community planning allows for knowledge mobilization and local decision-making with end-users.

An Introduction to the Science Policy Interface

- The science policy interface involves numerous stakeholders, so the policy process is often guided by exchanges, consultations, co-evolution, and collaboration of knowledge (Van den Hove, 2007).
- There is both 'science for policy' and 'policy for science'.
  - **'Science for policy'** is how science can be used to inform policy, such as in the form of science advice.
  - **'Policy for science'** is how resources are distributed to conduct science, such as how to distribute funding for science, or what policies can be used to manage and support scientific infrastructure.

Key Actors in the Science Policy Interface

Government

- Federal (Members of Parliament)
- Provincial and Territorial (Members of Legislative Assembly, or the equivalent)
- Municipal (Mayors, Councillors, or the equivalent)

Federal Funding Agencies

- Natural Sciences and Engineering Research Council (NSERC)
- Social Sciences and Humanities Research Council (SSHRC)
- Canadian Institutes of Health Research (CIHR)

Federal Agencies and Departments

Organizations across different sectors, including academic institutions, non-profits, and those in the industry sector

Individuals

- Scientists
- Advocates
- Policy Analysts
- Science Advisors
- Chief Science Advisors / Scientists
- Ministers
- ...and so many more!

Evidence-Informed Decision-making in Science Policy

An idealistic view:

Publish scientific research →
Decision-maker will read and consider research →
Create policy based on research

A realistic view:

Science, economic, legal, and social research →
Decision-maker reads and considers research and current social and political environment →
Create policy based on research

The science policy process is more complex than the idealistic view because sometimes science is not accessible to decision-makers. Decision-makers often have to consider several factors before making a policy. It is usually an interplay of values, knowledge, and rules.

How Members of Parliament Gather and Use Information

In 2019, Evidence for Democracy conducted one-on-one interviews with Canadian Members of Parliament (MPs) to find how they gather and use information in their work.

MPs gather their information from a variety of sources, such as the Library of Parliament, external organizations, news media, experts, to name a few.

MPs highly valued credibility and had a preference for bias-free information but how credibility was evaluated varied across MPs.

MPs viewed research and evidence as valuable, but they did not share a unified definition of 'research'.

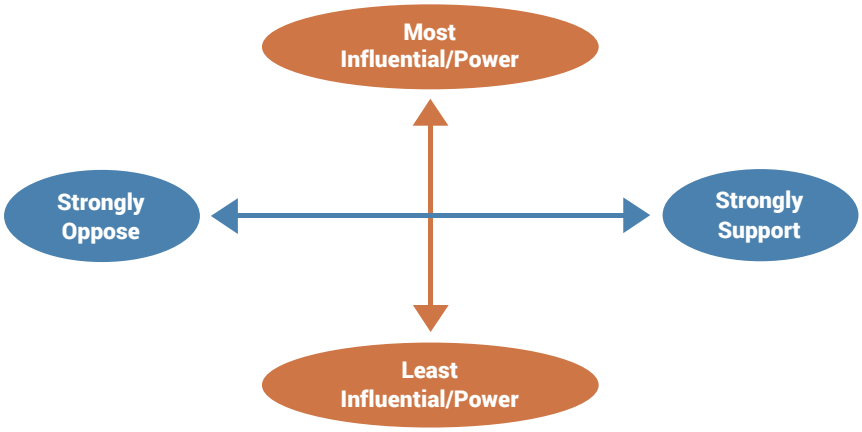
MPs face a number of challenges when using science and evidence in their work, such as time restrictions, information overload, information bias, conflicting findings, and lack of resources.

Tips on Engaging in the Science Policy Interface

- Know who you want to reach and be strategic about reaching the right people and right government level.
- An inside vs. outside approach
  - Go through formal internal processes by talking on committees
  - Go through informal processes, such as using a petition or op-ed to asking representatives to do something or issue a call to action.
- Have clear and actionable recommendations
- Synthesize key findings in a shorter format
- Time your moment—keep a pulse on the political landscape

Preparing to Engage in the Science Policy Interface

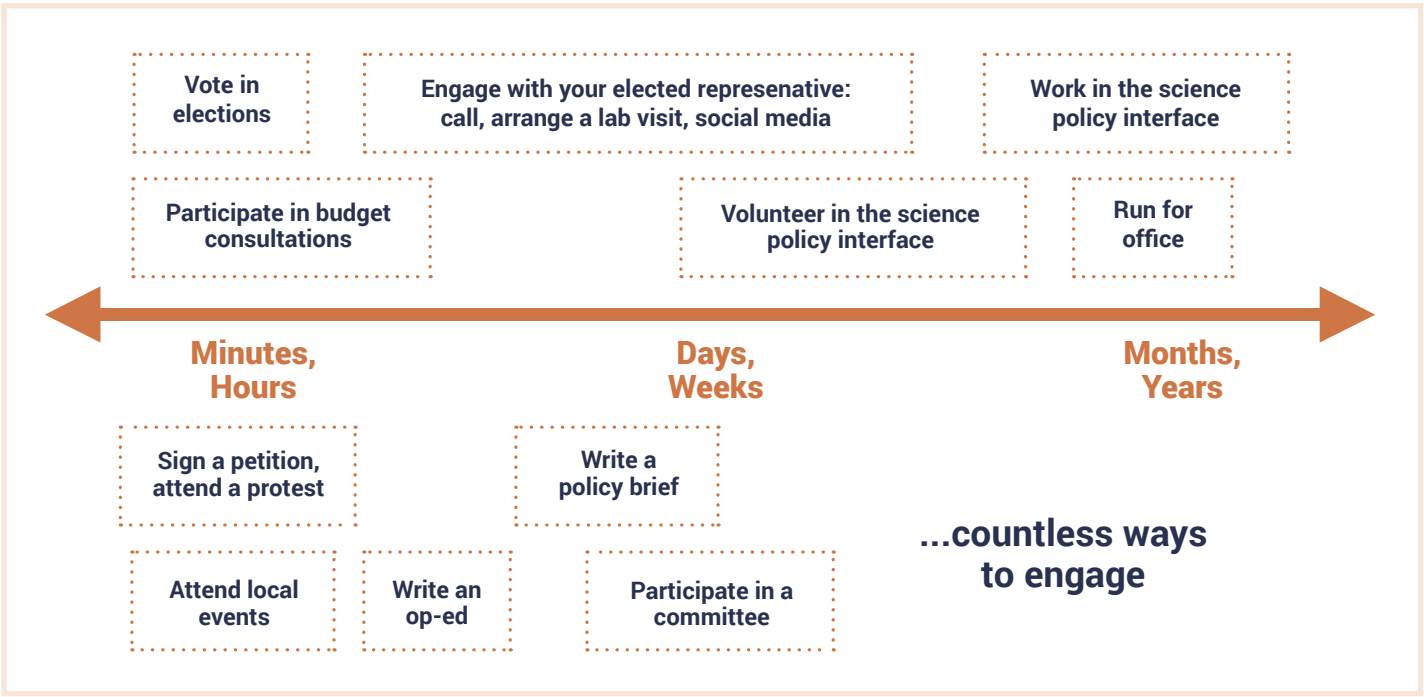
Identify Target Stakeholders



Questions to consider:

- What issue do you want to address?
- What action do you want to see taken?
- Identify your target decision-maker
- What strategies or tools will you use?
- What is your story? Your key message?

Ways to Engage in Science Policy



Reasons to Participate in the Science-Policy Interface

- Make a difference
- Explore different fields
- Bring your expertise to the decision-making table
- Expand your understanding of policy processes
- Become involved in the community
- Address issues in the scientific field through policy

Research and Policy in Practice - Community Planning

- Community planning involves several stages of development and requires evidence to guide decisions, especially for rural and Northern projects.
- Integrating data into decisions benefits community planning for a number of reasons:
  - Mobilizes knowledge and makes permafrost hazards accessible for local decision-making.
  - Understand how decisions are made and how information permeates local community decisions.
  - Involves end-users throughout developing and utilizing the data.
- Decision-making happens at the territorial and municipal level.
  - The territorial government gives municipalities the authority to regulate land use for development and intensity of land use.
  - The municipalities are responsible for the details of community development, and this level is where changes are the easiest to implement.
    - Municipalities create 20-year plans but update them every five years.

Additional Reading(s):

- Values, rules and knowledge: Adaptation as change in the decision context by Gorddard et al. (2016)
- Evidence in Action: An Analysis of Information Gathering and Use by Canadian Parliamentarians by Evidence for Democracy (2019)

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