

# FIRST REFLECTIONS FROM A WORKSHOP ON SCIENCE POLICY RESEARCH AND SCIENCE POLICY DECISIONS

*bridges vol. 22, July 2009 / Pielke's Perspective*

By Roger Pielke, Jr.



In May, 2009, I co-organized a workshop with Merle Jacob of the University of Oslo on the role of science and innovation policy research in making science and innovation policy decisions. The workshop, sponsored by the US National Science Foundation (NSF) and the Norwegian Research Council (NRC), was held at the NRC headquarters in Oslo during a few beautiful sunny spring days. Attended primarily by scholars and decision makers from the United States and Norway, it also included a few scholars from the United Kingdom and Sweden. Here are a few of my early reactions from that workshop.

First, the relationship between research on science and decisions about science appears to be gaining more attention in the US and Norway, as well as more broadly across Europe. In the United States, the NSF has a program in this area (called the "science of science and innovation policy" or SciSIP) and a broader cross-agency program called Science of Science Policy (SoSP). The Norwegian Government recently prepared a white paper on the "Climate for Research" that, among other things, recommends that research policy evaluation should move from a focus on inputs - such as budgets for research - toward a focus on what research contributes to society. The EU has recently released a number of reports on science policy that explicitly seek to apply science policy research to science policy practice.

Second, in spite of increasing attention to the topic of "science of science and innovation policy" the area remains somewhat of a Rorschach test, even for scholars who self-define their work in this area. For instance, even within the United States there is no shared terminology to describe this area of research, much less among scholars across the Atlantic. Scholars from research areas self-described as science policy, technology policy, research policy, innovation policy, science and technology studies, as well as traditional physical and social sciences and humanities disciplines, lay claim to doing work on the "science of science and innovation policy." This interdisciplinary cross-fertilization can be a very good thing, but it carries with it the common risks facing interdisciplinary research, such as the lack of a shared understanding of purpose or methodologies which may result in less-than-rigorous work.

Interestingly, scholars from outside this general community could rightly claim to be doing this sort of work. One of the cases we examined was climate research: Here there is considerable discussion about the role of research in decision making, but many scholars are not at all engaged with the community of science and technology policy research or science and technology studies. Better integration of such topical communities with those more historically focused on science and technology as an object of study would benefit both communities.

Third, despite a seeming consensus in the community that a focus on "indicators" does not do justice to the complex relationship between research and the societal outcomes related to research, the community maintains a magnetic-like fixation on identifying indicators of relevance. The focus is on inputs such as funding for various areas of science, as well as outputs such as patents, publications, and citations. Equally irresistible is the urge to engage in cross-national comparisons, with each country's science policy makers looking for ways to show how their nation is somehow falling behind the competition. In the United States, those advocating for more funding for science like to use the metric of government research investment as a proportion of GDP - which invariably shows the US falling behind. Similarly, when pointing to the excellence of their own national research, science policy makers like to employ whatever metric creates the best impression, whether it be citations per quantum of research funding, or citations per paper, or some other metric that makes their case. It seems that we have a ways to go if we are to move beyond a narrow focus on indicators and metrics.

Fourth, even as science policy decision makers appeal to cross-national comparisons to gain the advantage in domestic debates over resource allocation, one of the most surprising things about our workshop was the ease with which scholars of science and innovation shared a common set of norms and perspectives. Part of this, of course, reflects the fact that Merle and I selected the participants (who were mostly, but not exclusively social scientists and humanists). But academia today is so thoroughly globalized that its culture and practices know no national boundaries, especially between the United States and Europe. Looking for a comparative perspective between the US and Norway, one finds more similarities than differences. A notable difference is the scale of the US science and technology enterprise compared to that of Norway. Another difference is the relative engagement with and importance of science and innovation policy research in Norway versus somewhat the opposite situation in the United States.

Fifth, the obstacles that lie between research and its use in other fields are also found in the area of science of science and innovation policy. This comes as no surprise. What makes it a bit more difficult is that, unlike areas such as health or energy research where science and technology are fully expected to contribute to decision making, research on science and technology itself benefits from no such general expectation. Decisions about science and technology are often left to scientists and engineers, or simply to the vagaries of the political process. Dissatisfaction with this arrangement is one factor helping to stir the growth of programs like SciSIP. However, sustaining the development of research focused on science and innovation will require that the needs of decision makers be met by SciSIP-type research. This raises the same sort of difficult questions that must be addressed by all disciplines seeking relevance: Who decides what information is needed? What is the role of researchers in questioning decision maker needs or priorities? How should conflicts of interest be handled? And so on. The SciSIP community has only just begun to ask these sorts of questions.

We expect to put together a special journal issue from the workshop. In the meantime, you can have a look at details of the event, including a number of very interesting background papers at: [http://sciencepolicy.colorado.edu/rsd\\_for\\_rssip/](http://sciencepolicy.colorado.edu/rsd_for_rssip/)

\*\*\*

*Roger Pielke, Jr. is the former director of the Center for Science and Technology Policy Research (2001-2007). He has been on the faculty of the University of Colorado since 2001 and is a professor in the Environmental Studies Program and a fellow of the Cooperative Institute for Research in the Environmental Sciences (CIRES).*