Translating Research to Policy for Sustainable Cities

What Works and What Doesn't?

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More than 1,000 cities worldwide are engaged in developing policies and programs that address various aspects of sustainable development. It is every researcher's dream to have her work contribute to such an effort that is simultaneously both global and grassroots in nature.

Several recent examples indicate the role of academic research in influencing local-level policy making for sustainability. For example, research by Ramaswami and colleagues (2008) and Kennedy and colleagues (2009) is informing the development of the community-scale greenhouse gas (GHG) emission reporting protocols, convened by ICLEI-USA and ICLEI-International,[1] for U.S. and international cities, respectively (e.g., ICLEI-USA 2012). Additionally, the GHG emissions footprinting project conducted with the city and county of Denver, Colorado, USA (Ramaswami et al. 2008), resulted in the development of new sustainability strategies and associated mayoral decrees to promote resource efficiency in the city (Greenprint Denvernr 2007).

For individual cities, a participatory research model with co-located universities can be effective where city staff and academic researchers work collaboratively in all stages of research—defining the problem, clarifying the key research questions, and co-developing data sets and methods to generate answers.

These examples illustrate a trend at the science–policy interface where the action arena for environmental policy-making is shifting from national agencies such as the U.S. Environmental Protection Agency (EPA), with their accompanying national science advisory boards, to new actors and pathways at the local level. Policy-making for sustainability at the city scale differs from that at the national level in two important ways. First, cities, particularly those in the United States, are engaging in environmental policy making without significant federal directives, a process that requires a high level of buy-in from citizens to pass local regulations. Second, because sustainability goals and priorities vary by local context, the science to inform city sustainability policies must also have the capacity to be locally context driven—much more so than at the national level.

How can researchers and city sustainability leaders better design interactions at the science–policy interface to meet these unique local-level needs? The synthesis presented in this column was developed from a panel discussion between researchers and city sustainability practitioners—broadly defined to include city staff, council members, and staff of multicity organizations—at a recent U.S. National Science Foundation (NSF) Research Coordination Network (RCN) workshop on sustainable cities. Two distinct avenues for translating research to city sustainability policies and programs emerged from the panel discussion:

- collaborative research projects between individual cities and co-located universities, and
- the formal integration of research outputs into national-scale multicity organizations such as ICLEI-USA and the National League of Cities (NLC) that have the reach to establish national or international standards and best practices for numerous cities.

Three primary challenges were identified in translating research from academia into city policy making:

- *The inability of more research to generate consensus*. Often, the conclusions of academic research call for more data or more analysis rather than offering a concrete step forward toward consensus. Sometimes different research groups may offer seemingly conflicting information. Such conflicting and/or conditional results from research creates "paralysis of analysis," which delays local sustainability decisions beyond the timeline for decision making (discussed next).
- *Compressed timelines*. City governments developing a policy or program face time frames that rarely last 1 to 2 years, while researchers seek time frames of 3 to 5 years or longer. In contrast, national environmental policy making incorporates longer timelines (e.g., ozone regulations). Furthermore, as city leadership changes, cities that do not have an established office or staff dedicated to sustainability programs may face

DOI: 10.1111/j.1530-9290.2012.00565.x

Volume 16, Number 6

discontinuity in developing and implementing sustainability policies.

- *Processing research insights for policymaking*. Few city practitioners have the time to directly read journal papers and review articles; most city practitioners obtain research-related information via blogs and through peer networks. On the other hand, academic researchers are often inexperienced in succinctly communicating their research insights to policy audiences. The absence of trained science–policy liaisons such as those present at many national agencies places the onus of research translation on the researchers, who must develop new ways to communicate their findings (e.g., community forums, blogs, and policy white papers), and on the city practitioners who disseminate such work via informal networks.

Despite the challenges noted above, key benefits can accrue for city practitioners from interactions with academic research groups. Faculty, staff, and students bring passion, creativity, and flexibility to the projects. The innovation, quality, and credibility of information provided by academic researchers can provide a positive advantage over alternatives such as private consultants and in-house researchers. And, the trust enjoyed by academia among the public often helps in community presentations and engagement.

For individual cities, a participatory research model with co-located universities can be effective where city staff and academic researchers work collaboratively in all stages of research—defining the problem, clarifying the key research questions, and co-developing data sets and methods to generate answers. The principles of participatory research emerging from several traditions (e.g., analytic deliberation in the environmental policy literature and community-based participatory research in public health) have been applied to city–university partnerships for sustainability, as described through case studies of multiple Colorado cities, including Denver (Ramaswami et al. 2011).

In Denver, the process required commitment of staff time from the city, with city staff meeting with the academic research team on a regular basis (at least twice a month) to codevelop research questions, data, and methods. On the university's side, a robust literature on analytic deliberation helped the research team understand that both technical analysis and democratic dialogue are essential to develop sustainability policies for communities. The resulting participatory process ensured that the research conducted by the University of Colorado Denver team matched the policy needs and timelines for Denver. As researchers and city staff worked together, their joint effort opened up new data sets otherwise unavailable to academic researchers, and enhanced trust in the resulting analysis. Lastly, researchers learned new communication skills from city staff that helped sharpen and convey key insights to Denver's sustainability council and the community at large. Simultaneously, city staff and council members gained ownership of the project. Thus all three challenges in translating research to policy were overcome in this participatory research model implemented at the city scale. Indeed, the co-location of both the researchers and the users of the research (the cities) in close proximity is a major advantage of the model.

Going forward, long-term studies should assess how the participatory process influences city–university relationships as well as community trust in the collaborative science. Equally important is to explore practical training in participatory processes—offered to city–university teams—to expand the model to more cities.

Moving from individual cities to multicity organizations, the protocols and standards established by multicity organizations fill an important niche in institutionalizing sustainability for cities, particularly for smaller cities that may not have the monetary or personnel resources to engage in the individual city model described previously.

ICLEI-USA's recent experience developing community-scale GHG emissions reporting protocols illustrates the process involved. A steering committee and several technical advisory committees were convened to develop the protocol, facilitated by ICLEI staff. The committees met at least monthly by phone, draft protocol documents were provided for internal and public comment (including solicited review from technical experts), and in the final stages a face-to-face meeting was convened to generate steering committee consensus for final revisions.

Given its mandate to meet the needs of diverse member cities, ICLEI's steering and technical advisory committees had a necessarily large representation of city staff drawn from larger and smaller U.S. cities, in contrast with advisory committees convened by national agencies that have a predominance of scientists. The committee composition in multicity organizations reflects an emerging trend toward user-driven research. Scientists on the committees included researchers from academia and consulting firms who had worked in the area of GHG accounting, as well as technical experts from federal and state agencies. Given the diversity of the group, the protocol process took about 2 years and required significant facilitation. A face-to-face meeting achieved the final consensus, which reflected colearning not only about the science of GHG accounting, but also the practicality of gathering data and communicating results to the public.

Going forward, experiences in science–policy translation among multicity organizations need to be studied deeply to understand different facets (e.g., who sponsors the process, the role of the sponsors, the selection criteria and composition of the committees, the facilitation of technical aspects, and the challenge of sustaining large voluntary time commitments from many committee members).

As researchers and practitioners continue to learn to work together to translate research to policy and action, case studies of successful efforts should be documented to analyze what works and what doesn't. What is described here represents a first effort in the urban sustainability community at such reflection among researchers and practitioners, asking important questions at the research–policy interface to develop sustainable cities of the future.

Acknowledgements

This article reflects insights among city practitioners and researchers developed from a Research Coordination Network (RCN) workshop on Sustainable Cities—People and Infrastructures at the Energy–Climate–Water Nexus, sponsored by the U.S. National Science Foundation (NSF RCN-Science Engineering and Education for Sustainability [SEES] award 1140384).

Note

1. ICLEI–Local Governments for Sustainability is an international association of cities and local governments that promotes local action for global sustainability. ICLEI- USA is the U.S. affiliate.

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