

# Climate Change: Translating Science into Policy

## *Defining a Path Towards Sustainability*

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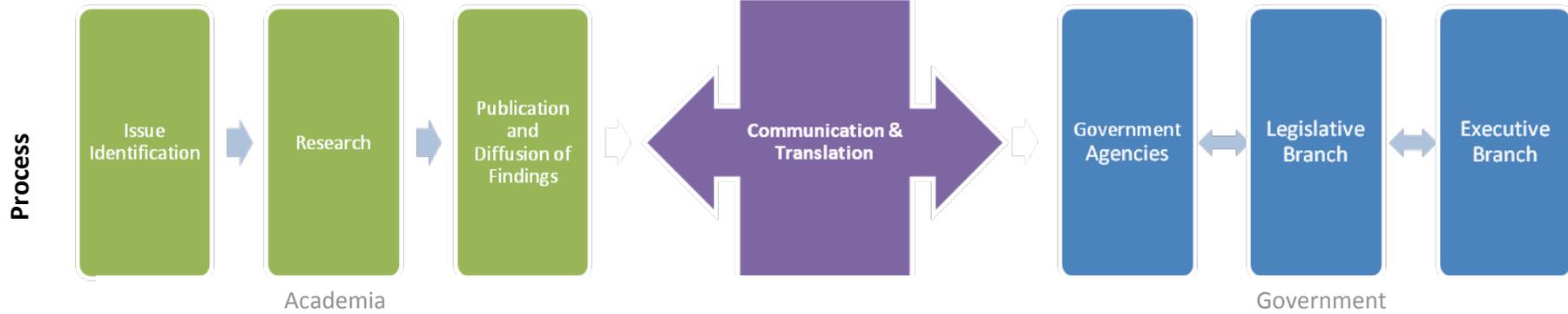
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### **Opinion Editorial**

We applaud President Obama for his recognition of the importance of science in government and call into action the translation of research into policy. President Obama's focus strongly aligns with many constituencies and has been demonstrated through the appointment of scientists to senior level government positions. Decision-making that integrates science are highly essential. There is sufficient scientific evidence to guide decision-making and the broader political process. However, there is an uneven balance and inequitable reflection of research in policy practices. This raises the question of how is science being used and applied? Policy has not caught up to the results of research. There is need for accountability in the use of scientific conclusions, political promises, and policy actions. This needs to be demonstrated in the consistency between the policy and the science. Communication and dissemination of research results need to be scaled up both as part of the scientific process and as a broader tool of outreach for public awareness. In order to overcome and address these challenges, there is need to transform the system. To achieve this, we propose a framework that maps out the pathway for short, medium, and long term strategies to translate research to policy; a path that leads to well-represented public interest and opinions, and increases the quality of life and well-being. We issue a call for action by the scientific community, the government, and the public to translate research into policy.

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## Leverage Points and Opportunities

### Short Term

- Identify where business sectors might align with and fund sustainability research
  - Educate researchers about the policy process
  - Educate and equip researchers and academic institutions with more sophisticated communication tools
  - Explore and define strategies for engaging in participatory science
  - Identify relevant scientific information for policy
- Ensure that public agencies and research institutions make their information easily accessible and current, and create mechanisms for the public to respond
  - Create venues for policy makers and researchers to interact
  - Engage the public & raise their awareness of the science
- Educate policy makers about the scientific process
  - Identify areas where checks and balances have been weakened or are dysfunctional, allowing for the manipulation of science

### Medium Term

- Encourage adaptation and diversity of perspectives
  - Understand how the relevant policies are linked to the research
  - Create agreements for collaboration in engaged research
- Create effective trans-sector collaborations between government, academia, industry and community organizations
  - Create and fund institutions which can serve as intermediaries between research institutions/public research agencies and the general public/policy-makers
  - Identify policy needs for science
- Develop a structure that provides continuity, independent of the people in it and the election cycle (e.g., invoking congressional term limits)
  - Address the weakening of checks and balances
  - Consider the creative destruction of old technology (e.g. eliminating subsidies of inefficient technologies)
  - Enable adaptive policy-making to avoid "lock-in" and path-dependency of bad policies that may be made due to misinformation or lack of information

### Long Term

- Continue research into sustainability science
  - Enact participatory science initiatives
  - Monitor the impacts of climate change
  - Create an institutional culture that effectively communicates research to policy makers
  - Monitor & evaluate the science-policy dialogue process
- Create transparency, accountability, and evaluation in the interface between science and policy
  - Consistently communicate interactions between policy makers and scientists with the public
  - Link participatory science with participatory policy making
  - Maintain a feedback process in communication
- Create an institutional culture that is able to effectively translate science into policy
  - Maintain checks and balances to ensure that science is not co-opted by the policy process

## Geography

Science and policy are practiced at multiple scales. Their interaction at the local, regional, national, and international levels can work toward common goals, but require separate strategies involving diverse actors and alliances. The US can take a leadership role in this multi-scale transformation by building on current efforts occurring at the regional, state and national levels, like voluntary carbon trading schemes, limits on auto emissions, support for the diffusion of alternative sources of energy, and resource conservation efforts. Much remains to be accomplished at the local level, where the aggregate implications of land-use and consumption decisions remain ignored, and where the communication between science and policy is most relevant. Participatory processes that include scientists, policy-makers and representatives of the public interest are needed to motivate changes in the rules of behavior and goals at this level. Changes in the US alone can scale up into global impacts in two ways: by reducing the significant share of the US on current global carbon emissions, and by setting an example for other nations as to how this can be done. This has happened before, when the US enacted stringent regulation on air quality targeting individual industries. On one hand, this had an impact on global temperatures, and also allowed the US to require similar regulations of trading partners. Similar initiatives have taken place within the countries that makeup the EU. The cause of climate change is much more distributed than the cause of air pollution, but the same mechanisms to solve it apply. Integrating short-term local efforts with current efforts and broader scales can spur a faster social transformation, perhaps faster than the deployment of new technologies.

