IDEESE Module 2.2
Responsible Participation by Scientists and Engineers in International Political Processes

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Learning Objectives

Students will be able to

1. Identify when international regulatory coordination or standardization is likely to be desired.

2. Describe the different ways of institutionalizing international policy coordination or standardization.

3. Understand the stages of policy or standards adoption and implementation.

Outline for In-class Discussion
Class discussion of the material in the background reading can be organized in a number of ways depending on instructor's goals, students' interests, and the time available.

50-minute session focused primarily on the careers of bench scientists and working engineers.

I. Ask students to specify when intergovernmental organizations and international conferences are most likely to seek scientific or engineering advice. They should be able to make the following points:

    A. There is broad consensus among political scientists and policy analysts that political leaders, government agency heads, and other decision-makers seek advice when they are uncertain about the causes of a problem, the consequences of a problem, or the best ways to deal with a problem.

    B. Decision-makers will seek scientific or engineering advice only when they think science or engineering knowledge will help them decide what to do. For instance, knowledge of nuclear engineering is helpful to figuring out whether particular country is trying to develop nuclear weapons.

C. Nuclear engineering expertise would not contribute to determining whether invading a country to keep it from building nuclear weapons would be a good idea. Good decisions about whether to invade require knowledge of that other country's defensive capabilities, of domestic attitudes toward invasion in general or of that particular country at that particular time, and ability to anticipate fairly accurately whether third countries would support the invading country, help the invaded country, or stand aside. Answering these questions requires military, political, and diplomatic knowledge.

D. Thus, seeking scientific or engineering advice only occurs when political decision-makers classify the problem before them as having science or engineering elements that need to be understood before making a decision.

II. Ask students whether decision-makers will follow scientific advice. They should be able to identify these circumstances as increasing the likelihood:

A. A problem-definition specifying that the matter has scientific or engineering elements does not guarantee that political decision-makers will listen to the scientific or engineering advice.

B. Politicians are at least equally concerned with balancing efforts to attain several – sometimes competing – policy goals, holding their political coalitions together, and keeping their jobs.

For instance, in 2001-2006 George W. Bush and most of the Republican majority in Congress believed that there was a zero-sum tradeoff between limiting or avoiding environmental damage and economic prosperity; they were convinced that action to avoid environmental damage would result in decreasing prosperity. They consistently ranked maintaining prosperity ahead of protecting the environment, so avoided any environmental decisions that appeared to require incurring significant expenses. Meanwhile, clean energy advocates were arguing that "going green" and economic prosperity are mutually reinforcing because investing in development and promotion of cleaner and renewable energy technologies would create new jobs, which would increase employment, meaning more people would have more money to spend or invest.

C. Decision-makers are also affected by public attitudes. If major social interest groups and large blocs of supporters believe that scientific or engineering knowledge is important and should be heeded, politicians interested in seeking and following such advice will be encouraged to do so. If interest groups and supporters think that science or engineering knowledge is unimportant, or that it suggests policies contrary to their own interests or beliefs, political leaders will not be encouraged to seek or follow scientific or engineering advice. The impact of public attitudes was very visible in the USA in 2008. The outgoing George W. Bush administration came under increasing criticism for ignoring scientific findings in environmental decisions while the incoming Obama administration stated that it would be paying careful attention to scientific findings.

III. Ask students to identify the roles scientists or engineers take up in international policy discussions.

A. Students should be able to list the roles discussed in the background reading:

1. As government officials – direct participation in policy-making and implementation
    i. Delegate to an intergovernmental forum
    ii. Participant in a transgovernmental network

2. As employees of private organizations (business firms, professional associations, testing societies) – indirect participation in policy-making and implementation
    i. NGO observer or organization advocate at intergovernmental organization
    ii. Advocate contacting national officials in a transgovernmental network
    iii. Member of an IGO expert advisory committee
    iv. Member of a national expert advisory committee dealing with issues having transnational ramifications
    v. Member of a private standards-setting body
    vi. Officer of a professional association
    vii. Participant in a scientific/engineering epistemic community exerting influence transnationally

3. As individual researchers or practitioners
    i. Member of an IGO expert advisory body
    ii. Member of a national advisory body dealing with issues having transnational ramifications.
    iii. Member of an epistemic community
    iv. Officer of a professional association
    v. Citizen advocate/public intellectual

B. Discussion can then focus on when in an individual scientist's or engineer's career opportunities for participation are likely to open up.

C. Note that government- employed scientists and engineers may be tapped for inclusion as junior members of national delegations fairly early in their careers while those employed outside government usually need a few more years to establish a reputation for expertise sufficient to bring them to the attention of government agencies looking for delegates or nominees for advisory bodies or of IGO secretariats looking for advisory committee members.

D. NGOs need a mix of junior, midcareer, and senior scientists or engineers so they can simultaneously tap into the latest research and circulate the opinions of better-known people who are more likely to attract media attention.

E. In the USA, standards-setting bodies are industry groups drawing mainly on persons employed by companies in the industry. In other countries, government-employees or a combination of company and government employees form the standards-writing groups. These people usually have several years of experience.

F. Leaders of professional associations are typically more senior scientists or engineers. The presidency of a professional association is both a reward for long activity in the association and a career award for eminence in research or practice. Members of the council and chairs of

committees are also longtime active members, some chosen for their effectiveness in committee work, others for their professional reputations, and some for both.

G. The role of public intellectual can be taken up at any point in a scientific or engineering career, but carrying weight with the public does require some evidence of professional accomplishment as well as an ability to write or speak in language citizens not trained in science or engineering can understand.

H. Scientists and engineers are also citizens, and as citizens have the same rights to hold and share opinions on any issue. They can use their research-related habits of thought to work out their positions on an issue. At the same time, they need to be clear about when they are speaking as experts with special knowledge relevant to a matter and as citizens with ordinary knowledge. The temptation to obscure this distinction is particularly strong for Nobel Prize winners because the prize is well-known. Journalists often ask their views on scientific and other questions well outside the areas of their expertise while social movements, interest groups, and NGOs often seek their support to add luster to their campaigns.

A longer session also looking at the political process

Instructors interested in this option would begin with the questions given above. If they have a 75-minute session, they would need to move through the first two questions in approximately 35 minutes to have sufficient time for discussion of the other questions. In a 90 minute to 2 hour session, all four questions could be covered without rushing.

1). Ask students to outline the phases of the political process. After they have, ask them whether the process is linear.

Science and engineering students should enjoy being asked to draw a model of the political process. Either group could be assigned to bring a more formal flowchart version to class as an exercise in active learning.

While the chart is good for encouraging students to understand that efforts to secure a political outcome by getting a decision and having it implemented often hit roadblocks, it might encourage them to think that once a desire is expressed in the form of a political demand it never disappears. The number of long-running political controversies still being argued out – over environmental protection, regulation of business, or birth control, to name a few – does seem to support that idea. However, some issues are effectively settled. Attempts to revoke women's right to vote would not succeed in most countries of the world. Though slavery has not been fully eradicated because it is well-hidden, no one is seriously proposing to re-establish it as an open and legal practice; debates invoking slavery tend to involve whether some other labor practice is so similar to slavery that it should also be abolished. Contrary to claims that war never settles anything, Nazi Germany, Fascist Italy, and Militarist Japan have not revived.

5. Have students discuss how voting rules affect consideration and decision.

a. Remind them that anyone making a policy proposal hopes to get a decision adopting it, so is very aware of who holds how many votes and how many votes are needed for adoption.

b. Science and engineering students will be familiar with voting rules for their country's national elections, so in a class with students from several countries you can have them explore the differences. Countries use the one person-one vote allocation rule, but have different ways of defining a majority.

The USA uses a single member district (each district elects one member of the legislature) plurality system in which the candidate receiving the highest number of votes wins. In multi-candidate elections it is possible to win with less than 50% of the votes cast.

In some other countries, single member elections are linked to a runoff system so that if no candidate gets more than 50% of the vote in the initial election, a second ("runoff") vote is taken with voters choosing between the two candidates who received the most votes in the initial election. France uses this type of system in its presidential elections.

Many European countries use a multi-member district (each district elects several members of the legislature) and proportional representation system in which each political party wins a number of seats proportional to the votes received by its candidates. If a district can elect 6 members and Party A gets 45% of the votes, Party B gets 35%, while Party C gets the remaining 20%, 3 of Party A's candidates are elected, 2 of Party B's and 1 of Party C's. Since parties typically list as many candidates as there are seats for the district, the ones actually elected are the ones higher on the list. For party A, then, their top 3 go to the legislature, for Party B their top 2, and for Party C their top 1. The parties decide who will be listed in what order, and voters see the order on the ballot.

c. Many intergovernmental organizations use a one state-one vote allocation rule, but others allocate different numbers of votes on a formula, as noted in the background reading. Some IGOs use fairly complex combinations of weighted voting and supermajority rules. These are the subject of intense negotiations as individual states or groups of states seek to balance concern with being able to make a decision with concern to be sure that decisions enjoy enough support to be implemented.

Remind students that the larger the majority required for adoption, the smaller the group needed to reject a proposal. Individual vetos are rare because they openly contradict notions of sovereign equality of states; tinkering with voting rules to give one state or a small group of states an implicit veto is more common.

Students can be encouraged to try making the sort of calculations national delegates to IGOs must make by doing the EU hypothetical provided on a separate page.

Notes for Instructor

This module is intended to inform students about the various ways scientists or engineers can participate in the transnational political processes that produce multilateral treaties in which governments coordinate their regulatory efforts in particular fields, transgovernmental cooperation among officials in counterpart agencies of different governments, or private standards-setting bodies. It should be clear that some of the ways involve leaving the laboratory or engineering site to become a full-time politician or official while others can be combined with continuing in research or engineering practice. Even if a student prefers to remain in the lab or the engineering practice, understanding how regulatory coordination and standardization occur is helpful background knowledge.

You may notice that the term "lobbyist" does not appear in the class discussion outline or the recommended readings. The term originated in the USA as a descriptive identifier for officers, employees, or members of private organizations engaged in talking to policy-makers and trying to influence their decisions regardless of their views or policy preferences. Political scientists still use it as descriptive term, a category name for identifying one sort of participant in the policy process. Popular usage in the USA ranges from descriptive to negative. Popular and scholarly usage in many other countries is very negative, particularly where the general culture is less individualist and the political culture less oriented to viewing politics as a process of inter-group competition and compromise. However people who devote much of their time and effort to communicating with policy-makers on behalf of some organization or group exist in all democratic countries and are now regular and recognized participants in the transnational discussion processes that precede and accompany major multilateral conferences.

Recommended Readings for Students
For assignment prior to class discussion

1) Responsible participation by Scientists and Engineers in International Political Processes [included in this module]

2) Phases of the Political Process Diagram [included in this module]

3) Case materials (as determined by choice of case)

Other Resources

Additional readings

1) Walter Powell, "Neither market nor hierarchy: Network forms of organization," *Research in Organizational Behavior* 12: 295-336 (1992).

Resources for potential participants in multilateral environmental negotiations

1) *MEA [Multilateral Environmental Agreement] Negotiator's Handbook*, 2nd edition 2007. Developed by UNEP and Joensuu University (Finland) as an introduction to the negotiating process for persons new to the process. Available free online in English or French via http://www.unep.org/DEC/Information_Resources/Publications.asp

2) *Negotiating and Implementing MEAs: A Manual for NGOs.* 2007. Developed by UNEP for people preparing to act as NGO representatives in multilateral negotiations. Available free online via http://www.unep.org/DEC/Information_Resources/Publications.asp

3) *Manual on Compliance with and Enforcement of MEAs.* 2006. Developed by UNEP as a handbook on using UNEP Guidelines on compliance and enforcement. Available free online through http://www.unep.org/DEC/Information_Resources/Publications.asp

Useful Websites

1) United Nations   http://www.un.org (welcome page from which user can select Arabic, Chinese, English, French, Russian, or Spanish language version)

2) International Council for Science (called the International Council of Scientific Unions until 1998, and still using ICSU as its acronym)   www.icsu.org
The homepage includes calls for comments on plans for cooperative international research programs and policy-related assessment or review initiatives

3) ICSU also maintains listings of members and associates with links to pages describing each:
http://www.icsu.org/4_icsumembers/OVERVIEW.php4

4) ICSU Committee on Freedom and Responsibility in the Conduct of Science:
   a. list of meeting summaries:
   http://www.icsu.org/2_resourcecentre/RESOURCE_list_base.php4?rub=51&PHPSESSID=c637091890c30a75e8194fbd07fa78b3

5) ICSU archive of ISCU and member union statements on science or policy-related issues:
http://www.icsu.org/2_resourcecentre/RESOURCE_list_base.php4?rub=19

Resources Included with this Module

1) Peterson, MJ. (2009). Responsible participation by Scientists and Engineers in International Political Processes (background reading)

2) Peterson, MJ. (2009). Securing Agreement in the European Union Council (exercise)

3) Peterson, MJ. (2009). Expert Advice in the Policy-Making Process (exercise)

4) Peterson, MJ. (2009). Phases of the Political Process (diagram)

5) Peterson, MJ. (2009). Actors in an Intergovernmental Organization (diagram)

6) Peterson, MJ. (2009). Phases of Process (diagram)

7) Peterson, MJ. (2009). Systems (diagram)

8) Peterson, MJ. (2009). Factors in IGO Program Impact (diagram)

9) In-Class Evaluation

IDEESE Module 2.2 Background Reading

Responsible participation by Scientists and Engineers in International Political Process

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A combination of interconnection between societies so strong that governments and peoples alike assume humanity now lives in a condition of globalization and increasing prominence of scientific and technical matters in everyday life has created need for scientists and engineers to participate in international as well as national debates about solving problems, applying technologies to particular purposes, and avoiding or minimizing serious harm. While participation in international debates requires sensitivity to cultural, organizational, and economic differences between societies, it resembles participation in national debates because scientists and engineers can take any of several roles, the political institutions through which cooperation is organized affect the process and outcome of debates, and features of the problem at hand affect the implementation of policies or standards adopted in international forums.

I.   The potential roles of scientists or engineers.

Policy-makers and others concerned with a particular issue seek any or all of several types of expert advice depending on how well the issue is understood and how urgent addressing it appears to be. Expert advice may consist of:

1.) trend-spotting, the documenting of observable changes in physical processes or conditions;
2.) theory-building, the development of causal explanations for the observed changes;
3.) theory-testing, the organization of experiments or the acquisition of additional data for testing the explanations,
4.) communicating, the presentation of trend-spotting, theory-building, and theory-testing in terms understandable to policy-makers and other non-scientists, and
5.) applied-policy analysis, the development of detailed programs for addressing a problem.[1]

Trend-spotting and theory-building are typically most prominent early in consideration of an issue when governments and others are trying to understand the problem. Results confirmed by theory testers feed into the negotiation phase, where communicating and applied policy analysis come to the fore as governments develop their programs for coordinated action. Trend-spotting continues as agreements are implemented. If new observations call existing causal models into question, theory building and theory testing will be revived. In any event, communicating and applied policy analysis will be needed for discussions of improving compliance with the agreement or amending it to better address the problem.

Some scientists participate directly in the policy making process because they serve as government officials. A few individuals with scientific training have taken up careers in politics and risen to top national positions; these include Margaret Thatcher, Prime Minister of the UK in 1975-1990, and Angela Merkel,

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[1] Typology of expert advice taken from Lawrence E. Susskind, *Environmental Diplomacy; Negotiating More Effective Global Agreements*, 76-77. New York: Oxford University Press, 1994.

Chancellor of Germany since November 2005, who worked as research scientists, and Mahmoud Ahmadinejad, President of Iran since August 2005, who completed a degree in civil engineering. A larger number of scientists and engineers hold civil service positions in national ministries or other agencies with responsibility for developing or implementing policy on particular issues. While working for their particular country, government employed scientists and engineers can become involved in international cooperation either as a member of their country's delegation to an intergovernmental conference or organization or as their country's participant in a transgovernmental network of peer officials assuring coordination of their respective governments' efforts on some problem. They may even be lent temporarily to an intergovernmental organization or another government's counterpart agency.

Scientists and engineers employed by private organizations – business firms, universities, professional associations, testing institutes – can become involved in policy discussions through an advisory role. These scientists and engineers do not participate in making decisions, but their comments influence agreements by indicating what goals are or are not feasible given the current state of scientific or engineering knowledge and by suggesting the most efficacious means of action to reach the goals. Eight such roles exist:

1. <u>Member of an expert advisory body created by an intergovernmental organization.</u> Intergovernmental organizations (IGOs) dealing with areas where technical or scientific information is important for policy coordination frequently rely on standing or temporary expert advisory committees. Their role publicized widely when the Intergovernmental Panel on Climate Change (IPCC) was awarded the Nobel Peace Prize in 2007. The IPCC was created by the World Meteorological Organization (WMO) and the UN Environmental Programme (UNEP) in 1988 to help policy-makers by issuing periodic reports summarizing the increasing number of research results in atmospheric science and assessing the current state of knowledge regarding gaseous emissions and their effect on world climate.[2] The Codex Alimentarius Commission, an expert body maintained jointly by the UN Food and Agriculture Organization (FAO) and the World Health Organization (WHO), develops recommendations regarding the safety of food, food additives and preservatives, and methods of processing food.[3] The UN General Assembly's Committee on the Peaceful Uses of Outer Space (COPUOS) has a scientific and technical subcommittee that works on promoting international cooperation in use of space technology and advises its parent Committee on the technical implications of policy decisions, such as the rules for marking launchers and objects placed in space that appear in the Registration Agreement.[4]

The precise extent to which experts can operate as fellow professionals following the best practices of expert reasoning in formulating recommendations varies considerably. This is strongly influenced by the composition and terms of appointment to the particular advisory body. The variety of composition can be appreciated by looking more closely at two expert bodies involved in international cooperation on food safety. The UN Codex Alimentarius Commission works through subcommissions and committees given the task of developing recommendations on particular topics. Most of them have a mixed membership,

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[2] See its website at http://www.ipcc.ch/ (accessed 4 June 2009). The process used to write reports is summarized in the diagram at http://www.ipcc.ch/ipccreports/index.htm (accessed 4 June 2009).

[3] Information about the Commission and the Standards it has developed is available at www.who.org/codex

[4] M.J. Peterson, *International Regimes for the Final Frontier*. Albany: State University of New York Press, 2005. Also see www.un.org

drawing members from the technical services of national agricultural ministries, other government agencies, and major food processing firms. Inclusion of industry-employed scientists is controversial, inspiring complaints from leftist commentators that subcommissions and committees simply endorse industry desires. In contrast, the Committee on Toxicological Effects of Additives includes only research scientists serving as individual experts.[5] One-time committees established to produce a particular study, such as the group producing the WHO-FAO Study on Diet, Nutrition, and the Prevention of Chronic Diseases in 2003,[6] are more likely to be drawn from universities and research institutes.

IGOs structure expert advisory committees in several ways, with the particular structure selected with an eye to having a body that will be accepted as a credible source of the particular type of expert advice needed. The structure depends much less on the type of advice than on the political dynamics. Sometimes an international secretariat serves as a filter, commissioning studies from groups of scientists likely to have some bias owing to their employment affiliation, aggregating the results, and presenting recommendations for the governments. Enforcement of and amendment of lists of endangered species for the Convention on International Trade in Endangered Species (CITES) relies on advice from scientists working for various environmental groups. Governments respect the professionalism of the particular scientists, but also rely on the Secretariat's incentive to identify good information as a way to correct for the likely bias. When different sets of potential expert advisers appear to have different bases, governments can build in corrections by including members of each set in the advisory body. Alternately, they may establish a two-step process in which scientists serving as individual experts lay out trends and suggest theories while applied-policy analysis is undertaken later by scientists serving as government designees and selected to ensure participation from every region of the world.[7] In the Convention for Protection of the Stratospheric Ozone Layer, the scientific assessment body deals with ongoing trend-spotting while the technical assessment body handles the applied-policy analysis needed to develop substitutes for any additional chemical substances identified as ozone-depleters.

The terms of appointment help define an advisory group's work, and their significance can be seen by contrasting the Codex Commission with the WHO Committee on International Surveillance of Communicable Diseases, which is responsible for proposing revisions to WHO's various sets of regulations. Unlike the Codex committees, where members are designated by individual governments, members of the Committee on International Surveillance are appointed by WHO's Director-General and their work is governed by a WHO staff regulation stating that the members serve the WHO exclusively and

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[5]Jean Pierre Dobbert, "Food and Agriculture" in Oscar Schachter and Christopher C. Joyner eds., *United Nations Legal Order.* Cambridge: Cambridge University Press, 1995.

[6] Diet, Nutrition, and the Prevention of Chronic Diseases, WHO Technical Report Series 916, available at www.who.int/hpr/NPH/docs/who_fao_expert_report.pdf (accessed January 18, 2011). Background is provided in Nishida et al, "The Joint WHO-FAO Expert Consultation on diet, nutrition, and the prevention of chronic diseases," *Pubic Health Nutrition* 7 (1A): 245-250 (200x).

[7] Though scientists and engineers believe good science or good engineering is the same everywhere, governments, particularly of developing countries, often want to hear from "their own" scientists. As Wilbert Chapman of the US Fisheries Service explained when proposing a regional committee to assess tuna populations and develop management regulations for the Inter-American Tropical Tuna Commission in 1945, "[we need] to gain the facts in conjunction with the Latinos so they will believe them." As cited in MJ Peterson, "International Fisheries Management" In Peter M. Haas, Robert O. Keohane, and Marc A. Levy (Eds)*. Institutions for the Earth* (pp 249-305). Massachusetts Institute of Technology,1993

may not request or receive instructions from any government.[8] Experts drawn from government service are clearly acceptable to the government sending them. Even the experts employed outside government are unlikely to be strong critics of their country's political regime. They are also likely to be relatively senior, known to government officials and fellow scientists alike, since it takes time to establish credentials as an expert in a particular area. Some governments apply more direct "political litmus tests" and recommend only persons known to strongly support the government's position on the matters addressed by the IGO expert body. Other governments are broader in their tolerance. Governments of smaller countries, particularly those in the "low" and "middle" income levels of development, may have limited choice because of the scientific or engineering communities in their countries are relatively small.

2. <u>Member of a national expert advisory body.</u> Even when an IGO or international conference has its own advisory bodies, individual countries often have national expert advisory bodies able to provide the country's delegation with information and suggestions on the topics being discussed internationally. This is particularly likely in the larger and wealthier countries with large scientific and engineering communities. In the USA, much scientific advice is provided through the National Research Council, which draws upon experts in particular fields as government agencies seek advice.[9] In the United Kingdom, the Royal Society maintains a similar process of convening expert study groups.[10]

3. <u>Nongovernmental organization (NGO) or social group representative at an intergovernmental organization or international conference.</u> As IGOs and international conferences have become more open to expressions of opinion from NGOs, transnational social movements, or – in the UN Commission on Sustainable Development – members of particular social constituencies like farmers, labor, women, and youth, some scientists and engineers have represented NGOs, constituencies, or other entities. While these representatives cannot speak at meetings or introduce formal proposals, they can follow proceedings and present opinions and ideas to the national delegates who negotiate and adopt the declarations, action plans, or other documents issued by the IGO or conference.

4. <u>Member of NGO or social group communicating ideas and information to their country's officials participating in a transgovernmental network.</u> Though the members of transgovernmental networks seldom gather for formal meetings, their ongoing interactions often inspire NGOs, social groups, and business firms to link up in their own networks to coordinate information provision and policy advocacy with the various national members of the transgovernmental network.

5. <u>Member of private standard-setting body.</u> Individual engineers are more likely than individual scientists to serve as a member of a private standards-setting body or of one of the technical committees drafting recommended standards since most of these efforts relate to standards for physical products or production processes.

6. <u>Leader of a professional association.</u> National and transnational professional associations typically avoid involvement in political controversy for three reasons: to avoid tensions among members holding

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[8] José E. Alvarez, *International Organizations as Law-makers.* Oxford: Oxford University Press, 2005, p. 246.

[9] Information on the National Research Council and its procedures is available at http://sites.nationalacademies.org/nrc/PoliciesandProcedures/index.htm.

[10] Information on the Royal Society's activities is available at www.royalsociety.org/policy.

different political views, to maintain their social role as experts, and to avert difficulties with the government in countries where traditions of allowing private self-organization are weakly established. Occasionally, however, professional associations do take stands on matters clearly within the domain of their expertise that have become the subject of international policy debate. When debate over climate change intensified in the USA after release of the IPCC's Third Assessment in 2001,[11] both the American Meteorological Society and the American Geophysical Union issued statements supporting the Assessment report of scientific consensus that human-caused greenhouse gas emissions were increasing atmospheric temperatures to the point of inducing global warming.[12]

7. <u>Participant in a scientific or engineering epistemic community seeking to exert influence transnationally.</u> An epistemic community is a group of scientists or engineers who share substantive expertise on some matter, a common way of acquiring and assessing empirical evidence about the state of the world and the causal processes that produce that state, a belief that international cooperation is needed to address the problem, and a particular proposal for organizing that cooperation. An epistemic community operates differently from economic interests and other politically active groups because of its distinctive patterns of developing and amending policy proposals. These patterns are not set by the calculations of material interest that typically motivate economic interests or the broad normative propositions that motivate many other sorts of groups; epistemic communities are guided by their scientifically established understandings regarding causes and solutions of the problem at hand.[13] Before establishment of the IPCC in 1988, atmospheric scientists worried about global warming had gotten together on their own and sought media attention for their research and concerns.

8. <u>Public Intellectual/Citizen Advocate.</u> Individual scientists and engineers can also enter policy debates directly as public intellectuals or citizen advocates addressing the general public – including any elected or career government officials in the audience – through mass media or blogs.

II. Political Dynamics Scientists and Engineers Need to Understand

<u>The Political Process</u>

Modified by adjectives, the word "politics" has been applied to activities ranging from competition for influence and superior managers' attention in the workplace ("office" or "workplace" politics), through participation in political parties' efforts to win elections ("electoral politics"), through participation in legal organizing activities ("conventional politics") through participation in sometimes-legal, sometimes-illegal protest activities intended to force a government to change policies ("contentious politics") to participation in efforts to overthrow a government ("revolutionary politics"). The unadorned noun "politics" is generally used

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[11] Intergovernmental Panel on Climate Change, Third Assessment Report, 2001. Available at http://www.ipcc.ch/ipccreports/tar/vol4/english/index.htm. (Accessed 4 June 2009).

[12] American Meteorological Society, "Climate change research: issues for atmospheric and related sciences," February 2003 available at www.ametsoc.otg/POLICY/climatechangeresearch_2003.html (accessed January 18, 2011); American Geophysical Union, "Human impacts on climate," December 2003, available at www.agu.org/sci_soc/policy/positions/climate_change.shtml (accessed June 2009).

[13] The characteristics and workings of epistemic communities are discussed in Peter M. Haas, ed., Knowledge, Power, and International Policy Coordination, *International Organization* 46(1) pp. 1-35 (1992).

to denote processes of using formal political institutions to make collective decisions that define social goals and the means by which those goals will be attained. Defined in this way, the political process is best understood as characterized by several phases with alternate paths and feedbacks that frequently create a continuous loop of cycling through the phases as goals are redefined or means shifted.[14]

In the usual order of presentation, the phases of the political process are:

1. Demand formulation. The political process starts outside the public realm, in individuals' or groups' perception that some concern, issue, or problem requires society-wide attention because individual or group action cannot address it effectively. An individual or group that believes it can handle something effectively with its own effort and resources will not define that matter as "political;" it will simply deal with the matter itself. Individuals or groups will raise political demands whenever engaging the centralized administrative and enforcement structures of government appears necessary to satisfactory action on the matter. Matters get on the international level agenda, and are addressed by groups of governments or by IGOs when enough governments are persuaded that the matter deserves group or IGO consideration.

2. Agenda setting. While any individual or group can come up with a political demand, securing attention requires persuading others that the demand deserves attention from the relevant political institutions. Here it is important to distinguish between items gaining public attention in the sense of being reported in the media, discussed on blogs, or talked about among family, friends, and neighbors. Real and imagined details of celebrities' personal lives receive considerable public attention, but seldom inspire political demands because no one thinks they require some decision out of government. Large electrical power outages are reported, but inspire political demands only when restoration of the grid takes longer than people think is reasonable. Similarly, the high post-World War II growth of human population was discussed among demographers and environmentalists as a "population explosion" for several years before the government of Malta asked in 1962 that it be added to the agenda of the UN General Assembly.

   Many demands never reach the agenda of actively considered political concerns. Some fail to reach the agenda because they appeal to very few others; some fail because of opposition from influential persons or groups who use their influence to keep the demand off the agenda. Over time persistent demanders can gain more attention, gain support from those who were initially indifferent, or even weaken opposition to considering the demand, but this does require more effort. At the international level, demands advanced by major countries or groups of countries are more likely to secure attention than demands from small countries. Similarly, non-state actors like multinational corporations, large nongovernmental organizations based in the industrial countries, and transnational advocacy coalitions with members in major countries find it easier to gain attention than those active only in one or a few countries or lacking sufficient resources to maintain up-to-date websites, send members to IGO meetings, or engage in protests in major cities where they will get international media attention.

3. Consideration. Inclusion on the agenda is followed by active consideration of the issue. This can involve any of several activities, including asking advisory bodies for data about conditions and advice about the feasibility of possible courses of action, during which goals are defined and various

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[14] The clearest statements of this conception include John Kingdon ; Reference to discussions.

means for their attainment are suggested. The discussions and negotiations that form the largest part of consideration in an international organization or conference are particularly challenging because governments are concerned with developing proposals that will simultaneously attract enough support from other governments to be adopted in the international body and from enough government agencies and private actors at home to be accepted and implemented.

Consideration usually leads to decision-making, but the shift to decision may be delayed if no proposal attracts sufficient support. Supporters believing they will be able to secure more support if they have more time to negotiate or to persuade can "mark time" by sending (or returning) the matter to a committee or by commissioning more studies. Within countries, legislative committees, special commissions of inquiry, requests for advice from scientific or technical groups, public hearings, and procedures for securing public comments on proposed policies can all be used to create delay. Proposals can also be "buried" – deferred by opponents expecting to prevent a decision by diverting the discussion to a legislative committee or to some advisory body where opponents predominate and can be relied upon to avoid the matter. Internationally, IGO secretariats, ad hoc commissions, and advisory bodies can fulfill similar delay or burial functions.

4. Decision. Decision is the moment of determining what proposal, if any, will be adopted as policy. In formal organizations, decision involves some explicit, pre-defined, voting procedure specifying the amount of support required to consider the proposal adopted.

In parliamentary countries, where the prime minister and other heads of government departments are the leaders of the political party or coalition of political parties that won the most recent legislative election, this link of the executive and legislative branches normally assures the government of a majority for any proposal it puts forward. In countries where the executive branch leaders and the legislature are elected separately, different parties may control each and the executive face a much harder time getting proposals accepted. Within intergovernmental organizations, proposals are not brought up for a vote until supporters are confident that they have enough support to get them adopted.

5. Implementation. Unless the decision specifies doing nothing, it needs to be implemented – followed by actions that turn the words of the decision into a real world outcome. Opponents and lukewarm supporters can undermine a decision at the implementation phase through inaction; some opponents may go further and act contrary to the terms of the decision. Even inaction can effectively nullify a decision if it is sufficiently widespread.

The opportunities for weakening a decision afterward through inaction, slow action, or incomplete action are even greater at the international level where implementation is typically done by individual governments' officials rather than a strong, centralized regional or global agency. This is true even in the European Union, though the EU does have better procedures for monitoring national action and more ways to prod member governments into action than other IGOs.

6. Review. All policies are projections resting on assumptions that implementation will follow and that the particular set of actions endorsed in the decision will produce the desired outcome. Review is the process of continuously or periodically assessing the extent to which implementation has occurred and to which the actions taken are contributing to attainment of the goal. Consciousness that even complete implementation may not lead to goal attainment is particularly strong among

students of international environmental politics, who routinely distinguish between "compliance with" – governments and others carrying out the actions prescribed – and "effectiveness of" – the actual environmental improvement gained from those actions – an environmental agreement. Reviews revealing weak implementation are likely to trigger efforts to get laggards to perform better, even including follow-up decisions strengthening incentives to implement. Reviews revealing little progress towards stated goals despite considerable implementation are likely to trigger reconsideration of the policy itself. When explicit follow-up decisions revising implementation schemes or adopting new policies are desired, action shifts back to agenda-setting if there is wide disagreement on the need for follow-up decisions or a new policy, or to consideration if there is. Tacit changes can be produced more easily, through shared interpretations of rules or understandings that certain actions can be omitted.

This summary of the process might suggest a neat linear process from demand formulation to review. Actual politics is far messier: the process can stall in any of the phases. If it does, revival may require shifting back into previous phase to re-start the process. The various ways the process can stall and the pathways through which it might be restarted and indicated in Figure 1.

Each intergovernmental organization or standards-setting bodies has procedures for taking up, considering, and deciding on policy questions. Though the exact agenda-setting and decision making procedures vary from organization to organization, they can be divided into a number of generic types, each with features that influence how the political process plays out. Understanding the implications of these generic features and identifying which features have been combined to what effect in the rules of a particular organization are essential to effective participation in it.

Rules for Agenda-Setting

In most IGOs, agenda-setting is bounded by the limits of the organization's mandate. These limits can be geographic – the European Union, the African Union, the Organization of American States, the Arab League, and the Association of Southeast Asian Nations all operate among a regionally defined set of member states. They can be substantive – each of the UN Specialized Agencies, Offices, and Programs addresses particular issues; only the General Assembly has authority to deal with any sort of international question.[15] They can be a combination of both – the Antarctic Treaty Consultative Parties deal with questions arising from management of activity on the Antarctic continent or islands and seas south of the 60 degree S latitude line.[16]

Many IGOs have an open agenda: each member state has the right to propose as many agenda items as it wishes. Some IGO bodies establish a deadline so that items are proposed before the session of meetings starts; others allow items to be proposed during the session. Where such a rule prevails, the nominal agenda is usually longer than can be handled at the current session because of time constraints. Items that interest few other member states are accordingly ignored or put off until a later meeting. The items that are left form the IGO's effective agenda and move on to the consideration phase.

Rules for Decision

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[15] United Nations Charter, 1945, Article 10.

[16] Antarctic Treaty, 1959, Article VI.

Each international conference and intergovernmental organization has its own decision rules. These specify a.) how much support is required for adopting a decision and b.) whether that decision is a recommendation that member states may take up or ignore as they choose, or a binding decision that they are expected to follow.

Rules defining the amount of support needed can vary in two ways: by the number of votes each member state may cast, and by the size of the majority needed for adoption. International conferences and most IGOs operate under a one state-one vote rule in which every member state casts a single vote. Some IGOs, including the World Bank, the International Monetary Fund, and the European Union, use systems of weighted voting in which member states have varying numbers of votes. The number of votes assigned to a particular member may be based on population size (as in the EU), relative size of the national economy (as in the World Bank and the International Monetary Fund), or any other criterion that the member states agree to use when setting up the organization.

IGOs and international conferences can use any of several rules defining the size of the majority required to adopt decisions:

- unanimity: all members must support the decision;

- consensus: all or nearly all members must either support the decision or at least let the decision be adopted even though they are not fully persuaded;

- supermajority: a majority larger than 50% plus 1 of the votes cast: two-thirds (typically defined as 67% of the voters) and three-fourths (75% of the voters) are the most commonly used supermajority rules, but others have been adopted in particular organizations;

- simple majority: a majority consisting of 50% plus 1 of the votes cast;

- veto: a majority rule modified by an additional requirement that certain members vote with the majority: the UN Security Council where any one of the five Permanent Members (Britain, China, France, Russia, USA) can stop a decision by a negative vote is the most prominent use of this rule.

Combining variation in the number of votes each member state casts and in the number of votes needed for adoption yields 10 logical possibilities:

	unanimity	consensus	supermajority	simple majority	veto
1 vote per state					
weighted voting					

Weighted voting and supermajority can be combined to produce rules balancing extra voting rights for larger or wealthier members with assurances to smaller or poorer members that the largest vote holders

will not be able to adopt major decisions on their own. The IMF requirement that decisions to change quotas (the amount of money each member state commits to the fund) require that 85% of the votes be cast in favor. This rule is usually described as favoring the wealthiest members because it allows the USA (16.74% of the votes) or France, Germany, and the UK together (15.57% of the votes) to prevent change. Yet, it also means that any coalition of members able to muster more than 15% of the votes can do the same. Japan's 6.01% give East Asian members a good start towards blocking, and if all developing countries voted together, their cumulative percent of the vote would also suffice.[17] In the European Union, the European Council, the executive body of member states, and the European Parliament both distribute votes among member states on a weighted basis. In the Council, this is done by giving each member state's representative varying numbers of votes; in the European Parliament this is done by giving each state represented by a different number of members holding one vote each.[18]

The impact of different voting rules becomes apparent in the following examples of decision-making in a hypothetical IGO having 20 member states:

Distribution of votes	Majority required	Number of supporting members needed
one vote per state	simple	11
same	2/3s majority	14
same	3/4s majority	15
same	unanimity	20
States 1-5 hold 5 votes each; States 6-10 hold 3 votes each; the rest hold 1 vote each (60 votes total)	simple (31 votes)	Least: 7 (states 1-5 and any 2 of states 6-10) Most: 17 (states 11-20, states 6-10, plus any 2 of states 1-5)
same	2/3s majority (40 votes)	Least: 10 (states 1-5 and 6-10) Most: 18 (states 11-20, states 6-10, plus any 3 of states 1-5)
same	3/4s majority (45 votes)	Least: 15 (states 1-5 and 6-10 plus any 5 of states 11-20) Most: 19 (states 11-20, states 6-10, plus any 4 of states 1-5)
same	unanimity	20

As the table indicates, the size of the majority needed for adoption is important because it determines the number of members who must be persuaded by a proposal. A typical UN-related organization has at least 150 member states. In an IGO that size, 76 members are a simple majority, 101 are a 2/3s majority, and 113 are a 3/4s majority. The larger the majority required the harder supporters of proposals have to work on attracting support. This usually requires modifying proposals to meet others' objections, and may – if disagreement is strong – mean watering down proposals by removing any element inspiring serious

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[17] Distribution of votes among IMF members updated in January 2011. Available from http://www.imf.org/external/np/sec/memdir/members.htm (accessed 18 January 2011)

[18] See chart of EU vote distribution on the last page.

objection. However, a strong sense of urgency to address a problem and a willingness to try new approaches can permit escape from the dynamics of "least common denominator" politics.

III. Scientists and Engineers in International Level Policy-Making Processes

<u>Operating in or with IGOs.</u>

The opportunities for influencing decisions open to scientists and engineers in advisory roles as members of expert committees or representatives of NGOs and social groups vary considerably across IGOs. These opportunities will be greater when any of four conditions are present, and particularly wide when all four exist:[19]

1. Most member states have political cultures and ideologies receptive to self-organizing by, and comments or suggestions from interest groups, social movements, and individual citizens and these impulses are carried into the IGO. States vary considerably in their receptivity to NGO activity. Though both the fascist and Leninist regimes that sought to control all aspects of national life have disappeared, some governments still seek to channel group, movement, and citizen activity. One device for exercising such control is through creation of nominally independent but actually government-guided organizations (known to students of politics as "government-organized nongovernmental organizations" or GONGOs).

2. The particular IGO forum dealing with the problem has already developed formal rules or informal practices encouraging nonstate actor observation at meetings, contact with the secretariat and national delegations, or holding their own "parallel forums" (a common practice at UN-sponsored global conferences) for developing joint statements issued to the media and to conference participants.

3. The particular IGO is part of a "family" or "system" of related IGOs and takes cues from another IGO in the system that uses expert advisory committees extensively or allows representatives of nonstate actors to observe meetings and communicate with the secretariat or national delegations;

4. The IGO's secretariat has discretion to establish expert committees and/or ability to choose who will be invited to observe meetings or communicate with the organization, and uses that discretion to foster such contacts.

Because they typically meet only once, international conferences do not use expert advisory bodies. However, the process of getting governments to agree on holding a conference may be assisted by an expert committee created by an IGO, national expert bodies, or a transnational epistemic community. IGOs, with their continuously functioning secretariats and decision-making bodies meeting in regularly scheduled repeated sessions, have more scope for using expert advisers and advisory committees. Expert bodies are very common in IGOs dealing with issues or problems that member states' governments regard

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[19] Drawn from discussions in Robert W. Cox and Harold Jacobson, *The Anatomy of Influence: Decision-Making in International Organization.* New Haven: Yale University Press 1974; Ernst B. Haas, *When Knowledge is Power.* Berkeley: University of California Press, 1990; Dennis Dijkzuel, *The Management of Multilateral Organizations.* The Hague: Kluwer Law International, 1997.

as technical. They may be developed in other IGOs for answering particular technical questions that arise in the course of considering other issues.

<u>Operating in or with networks</u>

Epistemic communities, transnational advocacy coalitions, and social movements tend to prefer network organization over bureaucratic hierarchy. Their members are linked together more by shared ideas – political ideologies, moral values, visions of the good society – and shared concerns about particular issues than by superior-subordinate relations and job descriptions. As private entities rather than government agencies (or "nonstate actors" in the parlance of international relations scholars), networks gain entrée into international policy processes through contacts with IGOs, contacts in the governments of particularly influential states, or both.

IV. The Impact of Problem Characteristics on Policy

Whether decisions, implementation and review occur in an organization or a network determines how they proceed, but has little effect on the ease or extent to which they succeed. Ease of proceeding and degree of success are affected far more by certain characteristics of the problem or issue itself. The most important characteristics are the type of cooperation involved and the geographical extent of the problem. The extent to which different preferences on the matter parallel or cut across preexisting political alignments or economic connections may also affect the likelihood of stalemate in the decision phase or success in implementation.

Public choice theorists routinely distinguish between two types of cooperation.[20] Collaboration arises when member states agree on a common goal but different ways of reaching the goal offer each participating state a different net gain. For example, governments can easily agree on the general goal of reduce air pollution because the health and other benefits are clear today. However, a decision to reduce air pollution by focusing primarily on sulfur emissions will require states using bituminous ("soft") coal as their major fuel to make greater changes in economic activity than states using natural gas. The states facing high costs will prefer focusing on some other type of emission or else seek "compensation" for their higher costs through such related devices as loan programs or longer periods of time for reaching the agreed emissions limit. Coordination arises when states agree on the goal and do not face significant differences in net gain from a particular and obviously effective method of reaching it. Agreement on the goal will be followed by rapid convergence on the method.

The geographical extent of the problem, whether considered in terms of the benefits to be provided to participants or the undesired outcomes to be avoided, influences how many states need to be involved. Some problems, such as maintenance of the stratospheric ozone layer or avoidance of additional human-induced atmospheric warming, need to be addressed globally. The greenhouse gasses that yield atmospheric warming are produced in all countries (though about 80% came from 25 countries in 2005[21]); reducing total emissions requires not only that current large emitters cut back but that current small emitters also limit their increases. While the chloroflourocarbons (CFCs) and freons that contributed the most to

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[20] E.g., Kenneth Oye, "Cooperation under Anarchy," *World Politics* (1985).

[21] Calculated from the World Resource Institute's data on greenhouse gas emissions by type and source country at http://earthtrends.wri.org/pdf_library/data_tables/cli3_2005.pdf (accessed 25 June 2009.)

ozone depletion in 1990 were manufactured by a few large chemical companies in industrial states, the combination of higher cost for the less-damaging substitutes and easily-diffused manufacturing technology for CFCs and freons meant that only a global agreement to halt CFC and Freon use could prevent shifting production to other countries. Other problems, such as management of a river watershed, affect a particular region and can be handled by the states in that region. A few problems require cross-regional cooperation among a large number of states, but less than global cooperation, because some countries provide neither sources of nor solutions to the problem. This pattern characterizes efforts to assure safety of ocean navigation and prevention of pollution from ships; states that have no ports and register no ships do not need to be involved.

Existing political alignments and economic connections affect the way governments perceive problems. In the 1970s the USSR was eager to discuss the problem of long-range transboundary air pollution in the UN Economic Commission for Europe because it was one of the few issues on which opinions were not frozen into the Cold War rivalry. Developing country worries that environmental issues will be used to justify decisions that would limit their prospects for development have been a constant theme in international environmental negotiations and a strong reason for their insistence that environmental issues be handled in forums operating under one state-one vote rules.

Implementation and review are very sensitive to the resources applied to those phases of the process. Implementers, whether IGOs, transgovernmental networks, national administrative agencies, or private entities, need money, equipment, and personnel to perform their tasks adequately. Governments' reluctance to establish autonomously-funded IGOs has kept most implementation in the hands of national agencies, with all the unevenness that results from the wide variation in size and funding of administrative agencies around the world. This is true even in the European Union, where the EU's revenues are defined shares of the tariff and value-added tax (VAT) revenues collected by the member states. Administrative unevenness occurs even in the EU, though it is less noticeable there than in other parts of the world because most members have relatively large and relatively well-funded administrative agencies.

Both implementation and review depend on the competence of the persons carrying them out. This has been acknowledged internationally in the proliferation of capacity-building programs to help developing countries train experts and administrators in scientific and technical fields. Intergovernmental organizations also face capacity problems. The combination of norms calling for recruitment of IGO staff from a wide selection of member states (most elaborately formalized in the UN system specification of "desirable ranges" from each member state in the hiring of professional-level staff), practices of allowing member governments to "earmark" particular positions for their own nationals, and the existence of small professional communities in many states often means that technical competence comes fairly far down the list of criteria for hiring. The general problem of balancing among multiple criteria in hiring is shared by governments and other sorts of organizations as well. However, the obstacles to change seem to be greater in IGOs than elsewhere, partly because member states pay close attention to the nationalities of staff and perhaps because scandals produced by incompetence in IGOs usually receive little public attention because they seem so remote from citizens' daily concerns.

Maintaining competence, securing implementation, and having good review are enhanced whenever governments and private stakeholders can observe events and assess the extent of implementation and the amount of progress toward goals using widely-agreed measurements of success. In many technical fields, there are agreed physical measures, such as % of different gasses in the atmosphere or parts per million of contaminants in water, in which case the main problems of implementation review involve timely

and honest provision of data. Success in containing contagious diseases can be assessed with timely reports of additional cases – continued or accelerating increase in new cases indicating spread and decrease in new cases indicating containment.

Chart: Allocations of Votes in European Union Institutions

Member country	Votes in Council	members of Parliament	% of EU population	population (2005)
Austria	10	18	1.67%	8.2 million
Belgium	12	24	2.14%	10.5 million
Bulgaria	10	18	1.57%	7.7 million
Cyprus	4	6	1.63%	0.8 million
Czech Rep.	12	24	2.08%	10.2 million
Denmark	7	14	1.10%	5.4 million
Estonia	4	6	0.28%	1.4 million
Finland	7	14	1.06%	5.2 million
France	29	78	12.37%	60.6 million
Germany	29	99	16.84%	82.5 million
Greece	12	24	2.26%	11.1 million
Hungary	12	24	2.06%	10.1 million
Ireland	7	13	0.84%	4.1 million
Italy	29	78	11.93%	58.5 million
Latvia	4	9	0.47%	2.3 million
Lithuania	7	13	0.69%	3.4 million
Luxembourg	4	6	0.10%	0.5 million
Malta	3	5	0.08%	0.4 million
Netherlands	13	27	3.30%	16.3 million
Poland	27	54	7.80%	38.2 million
Portugal	12	24	2.14%	10.5 million
Romania	14	35	4.40%	21.6 million
Slovakia	7	14	1.10%	5.4 million
Slovenia	4	7	0.41%	2.0 million
Spain	27	54	8.77%	43.0 million
Sweden	10	19	1.83%	9.0 million
UK	29	78	12.24%	60.0 million
needed to adopt	a majority of states casting 232 votes			
Total EU27	345	785		490 million

Votes and population from European Union, *The European Union: A Guide for Americans* (2006), p. 4.

[Note: If approved (its future was uncertain in June 2009), the Treaty of Lisbon specifies that after 1 August 2014 adoption of decisions taken by Qualified Majority Voting will require yes votes from 55% (15) of the member states having 65% of the EU's combined population. A blocking vote (opposition sufficient to keep supporters from meeting the population criterion) will need to include negative votes by at least 4 states.]

IDEESE Module 2.2 Resources

Securing Agreement in the European Union Council

MJ Peterson
Version 2; August 2009

1. There is a proposal before the EU Council that can be adopted by Qualified Majority Voting.

2. The basic features of the proposal have been known for some time. On the day it is formally presented to the Council for consideration, the attitudes of member governments are:

    -   France and Germany strongly support the proposal as written;

    -   Denmark, Ireland, and the UK vehemently oppose it;

    -   Italy would support it if the provision extending the rules to small and medium-sized enterprises, which France and Germany think is important, were dropped;

    -   Poland would support it if the rules did not apply to construction companies, another portion that France and Germany also think is important;

    -   Austria, Hungary, and the Netherlands will accept it;

    -   Romania and Slovakia appear agree with Poland;

    -   Portugal, Spain and Sweden appear to agree with Italy;

    -   Greece will support if Germany and France accept a two-year delay in the start of the new rules included in the proposal;

    -   Belgium, Estonia, and Finland want the budget allocation reduced by 25%, a reduction France and Germany think is much too large;

    -   Bulgaria and Slovenia want a one year delay on rules and a 15% lower budget allocation;

- Latvia, and Lithuania will vote yes if it looks like the proposal will be adopted but otherwise they will vote no;

- the rest have not expressed a position.

3. You are the French member of the Council. Determine whether you can form a coalition sufficient to adopt the proposal, either as is or with modifications. Remember that you need to balance two considerations: you want to make as few changes as possible but you also want to get it adopted now.

Instructions: Use the grid on the following page to calculate the votes that can be mustered by possible coalitions. The core supporters' votes have already been filled in for you.

Voting Grid for a Hypothetical EU Council Vote

Member Country	Council votes	1	2	3	4	5
Austria	10	10	10	10	10	10
Belgium	12					
Bulgaria	10					
Cyprus	4					
Czech Rep.	12					
Denmark	7					
Estonia	4					
Finland	7					
France	29	29	29	29	29	29
Germany	29	29	29	29	29	29
Greece	12					
Hungary	12	12	12	12	12	12
Ireland	7					
Italy	29					
Latvia	4					
Lithuania	7					
Luxembourg	4					
Malta	3					
Netherlands	13	13	13	13	13	13
Poland	27					
Portugal	12					
Romania	14					
Slovakia	7					
Slovenia	4					
Spain	27					
Sweden	10					
UK	29					

232 votes from a majority of states are needed to adopt

IDEESE Module 2.2 Resources

Expert Advice in the Policy-Making Process
MJ Peterson
Version 2; August 2009

Instructions: Use this chart to identify the phases of policy-making in which you think each type of expert advice is most important.

	Trend-Spotting	Theory-Building	Theory-Testing	Communication	Applied-Policy Analysis
Demand Formulation					
Agenda-Setting					
Consideration					
Decision					
Implementation					
Review					

This should be cited as: M.J. Peterson. 2009. "Expert Advice in the Policy-Making Process." International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.

IDEESE Module 2.2 Resources

Phases of the Political Process

MJ Peterson
Version 2; August 2009

This should be cited as: M.J. Peterson. 2009. "Phases of the Political Process." International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.

Actors in an Intergovernmental Organization

MJ Peterson
Version 2; August 2009
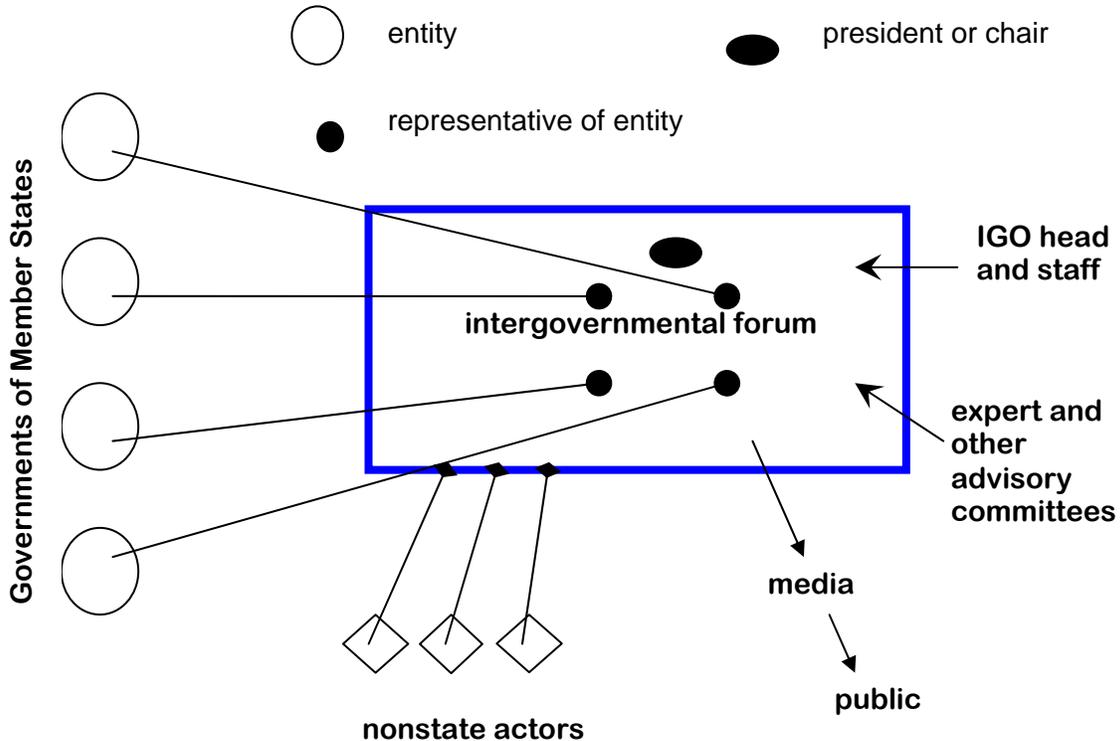
This should be cited as: M.J. Peterson. 2009. "Actors in an Intergovernmental Organization." International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.
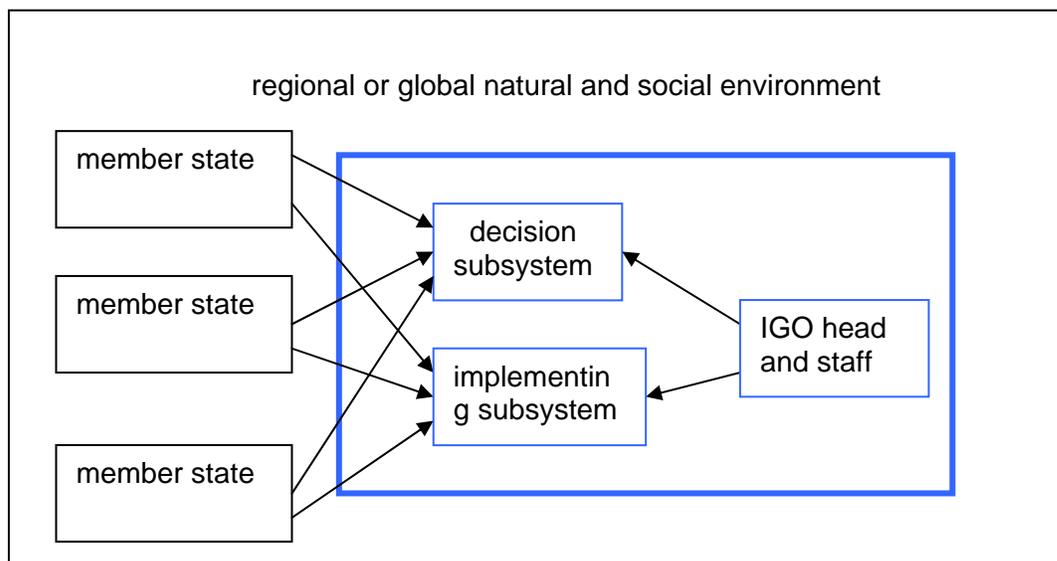
Phases of Process

MJ Peterson
Version 2; August 2009

A. Hurdles Format
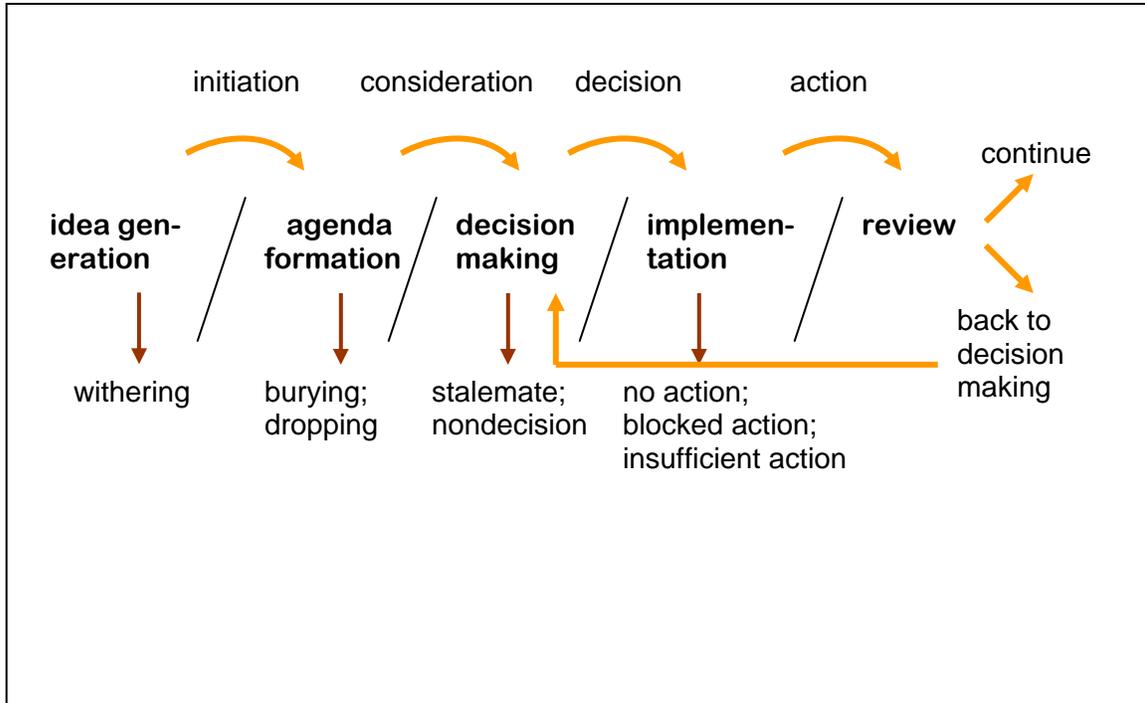
initiation   consideration   decision   action

idea gen-eration	agenda formation	decision making	implemen-tation	review	continue

withering   burying; dropping   stalemate; nondecision   no action; blocked action; insufficient action   back to decision making

This should be cited as: M.J. Peterson. 2009. "Phases of Process." International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.

B. Tree Format

Idea to Decision (using Easton names for phases)

desire-demand conversion   agenda-formation   decision-making

idea → initiated → on agenda → decision

ignored

dropped; buried in commmittee

no change; stalemate

Decision to Implementation

implementation   [review]

decision → sufficient action → satisfactory result → continued action

no action; blocked action; insufficient action

unsatisfactory result
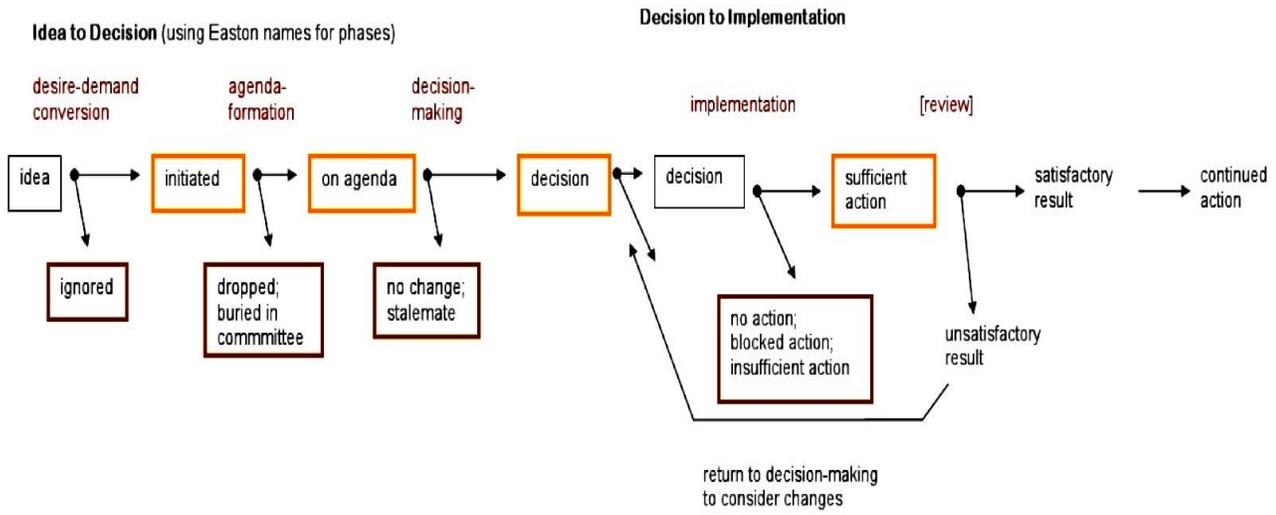
return to decision-making to consider changes

Systems

MJ Peterson
Version 2; August 2009

A. Intergovernmental Organization as a System

Inspired by Cox and Jacobson 1969, pp. 15-19

Cox and Jacobson do not state decision subsystem/action subsystem directly, but such a system seems useful when an IGO is given a significant role in implementation or compliance monitoring.

This should be cited as: M.J. Peterson. 2009. "Systems." International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.

B. Member States as Systems

member state political/economic/social characteristics

individuals seeking IGO careers

central government

govt agency most concerned with the IGO

interest groups most concerned

nationals on IGO staff

delegates to IGO forums
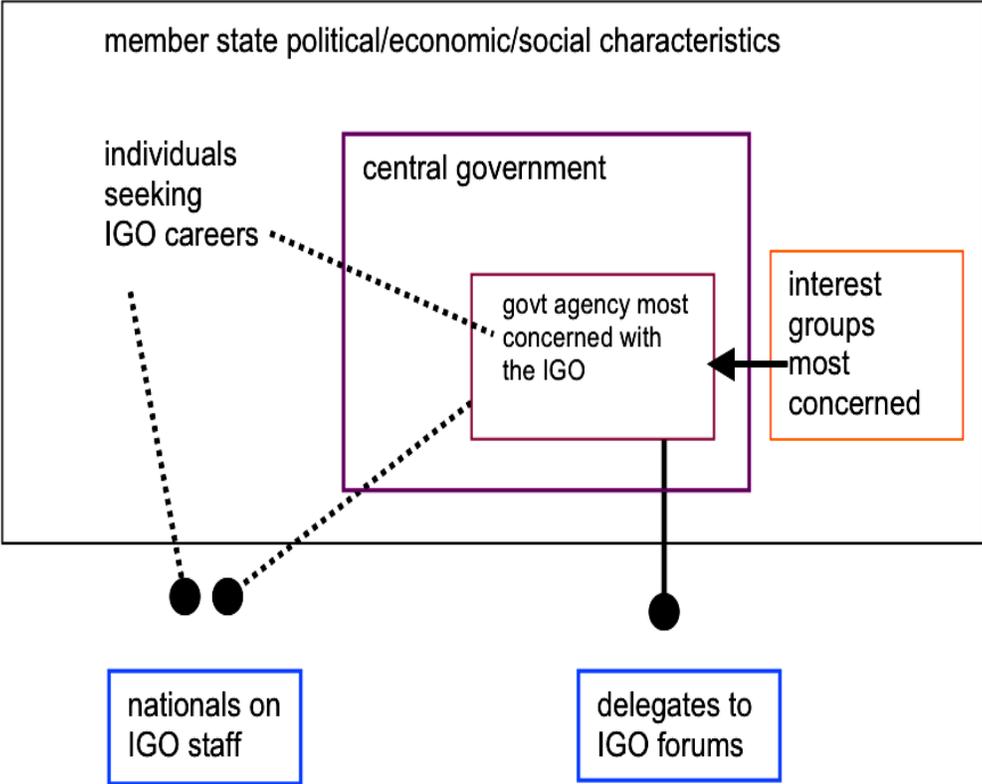
dashed lines are alternate paths; some IGO staff are recruited directly; most are either nominated by or cleared with member governments.

IDEESE Module 2.2 Resources

Factors in IGO Program Success

MJ Peterson
Version 2; August 2009
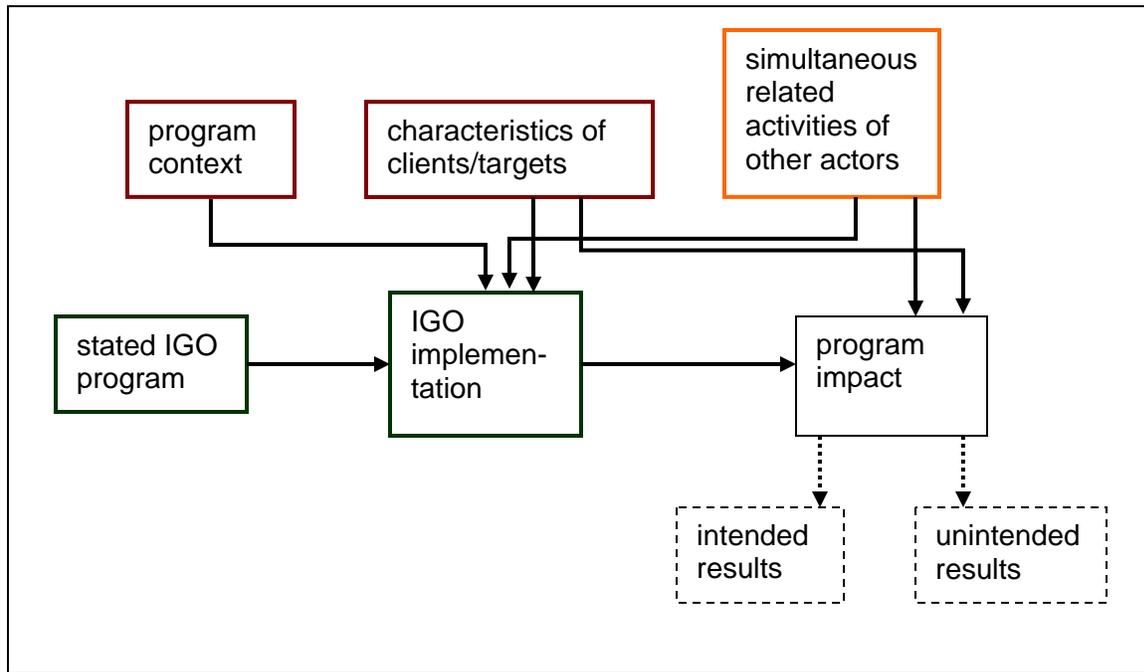
This should be cited as: M.J. Peterson. 2009. "Factors in IGO Program Success." International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.

In Class Evaluation
Version 2; July 2010

Part 1: The following are some possible response you might have to the material in this Module. Please circle the response that is closest to your thoughts after this module.

Key	
SA	Strongly Agree
A	Agree
UN	Undecided
D	Disagree
SD	Strongly Disagree

Statement	Your Response				
1. I now realize that there is a lot more communication and interconnectedness between countries than I realized.	SA	A	UN	D	SD
2. I do not think that it is very important for scientists/ engineers to pay attention to the international aspects of their work.	SA	A	UN	D	SD
3. I realize that my career will probably have some global or international aspects.	SA	A	UN	D	SD
4. I now realize there are more social implications related to my career than I thought about previously.	SA	A	UN	D	SD
5. I am more aware that the work I might do will involve ethical as well as technical choices.	SA	A	UN	D	SD
6. I am more aware now of the complications related to different ethical expectations in different countries.	SA	A	UN	D	SD
7. I feel there should be one set of ethical guidelines developed that could be used to guide the work of scientists/engineers, regardless of the country in which they work.	SA	A	UN	D	SD
8. I feel that each culture has its own ethical standards, and those standards should not be dictated by other cultures or countries.	SA	A	UN	D	SD
9. I think that ethical guidelines should be a part of international treaties.	SA	A	UN	D	SD
10. Countries should always seek scientific advice before making important decisions.	SA	A	UN	D	SD
11. Scientists/engineers have few opportunities to influence policymaking.	SA	A	UN	D	SD

Part 2: In this section, please identify one specific example that you remember as having the most impact on you. Please leave the line blank if nothing seems relevant.

1. Increased intercommunication that exists now between countries.

_____

2. Social implications of work done by scientists and engineers.

_____

3. Decisions about ethics in relation to different countries.

_____

4. Any other specific ideas that were important to you from this module.

_____