



CICERO

Center for
International Climate
and Environmental
Research - Oslo

Working Paper 1997:6

**Identifying and
selecting significant,
less significant and
insignificant actors in
global climate change
negotiations**

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ISSN: 0804-452X

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1. Introduction

Scholars hoping to advance the study of the politics of global climate change need to decide at the outset which actors are significant in the global climate negotiations and should be subjected to examination.¹ As discussed elsewhere, they also should try to develop rigorous ways to analyze and compare the contents of essential issues and policy proposals forwarded in the global climate negotiations.² Ideally, a comprehensive theory of international environmental negotiations would guide identification and selection of actors for examination in a model of the global climate negotiations. It is clearly not feasible to examine in-depth every one of the more than one hundred and fifty states who are participating in global climate negotiations. It is instead necessary to identify a representative sub-group of states whose configuration of preferences and power capabilities determines the political feasibility of particular policy proposals and options. To avoid a random selection of actors, a smaller group of actors will have to be selected on the basis of relevant criteria. Selection criteria should therefore be established at the outset.

As a first step in identifying significant actors, it is valuable to analyze the problem structure characterizing the global climate change case. Analysts who intend to model global climate negotiations should first and foremost be aware of the existence of important asymmetries in the case of global climate change. It should be taken into account that climate change is characterized by an uneven or asymmetrical distribution of abatement or control costs across countries. This stems from the fact that there are significant differences in national greenhouse gas (GHG) emissions profiles and in amounts of emissions of GHGs from different countries. There is in addition an asymmetrical distribution of climate damage costs, especially between industrialized and developing countries. Coupled together with uncertain cause-effect relations and potentially significant costs of climate policies impacting upon a range of key economic sectors, the result is the complex dynamics characterizing the case of climate change.

¹ This paper is written in the context of the research project '*Modeling International Negotiations: Exploring the Settlement Range in the Global Climate Change Negotiations*'. The project is led by Arild Underdal, CICERO and Department of Political Science, Oslo University. I thank Knut H. Alfsen, Underdal and the research team for useful comments on a previous draft of the paper.

² For a discussion, see Lasse Ringius and Jørgen Wettestad "Friedheim in the Greenhouse: Tracing key positions of key actors on key climate issues". Forthcoming CICERO/FNI working paper.

In the next section follows a brief discussion of two related approaches to identifying and selecting actors for inclusion in a model of the global climate negotiations. The first approach we might refer to as the substantive approach, or the problem structure approach, to identification of actors. The second we refer to as the negotiation approach. In the second section these two approaches are applied to the case of global climate negotiations. It is finally suggested which countries and groups of countries should be incorporated into a model of global climate negotiations. Notice that the important question of linkage of the climate change issue to other arenas and issues is not discussed in this paper.

2. Two approaches to actor identification

2.1 The substantive approach to actor identification

States who participate in environmental negotiations are generally of two kinds or belong to one of two distinct groups; those whose natural environment and socio-economic sectors are negatively impacted upon by transboundary pollutants, i.e. ‘importers’, or those emitting the pollutant(s) causing the environmental damage in question, i.e. ‘exporters’. These two basic categories of participants in environmental negotiations are also described as up-stream/down-stream countries, up-wind/down-wind countries, or through use of similar notions. The terms ‘net’ exporter and ‘net’ importer reflect that, although a particular transboundary pollutant might impact upon a number of countries, some countries export more of the pollutant relative to how much they import, and the reverse.

Importing countries are negatively affected by transboundary pollution. They have environmental, economic and political incentives for initiating negotiations with exporting countries causing environmental degradation by emitting transboundary pollutants. But exporting countries have no self-interest in agreeing to reduce their transboundary pollutants. This asymmetrical problem structure is also seen referred to as one-way pollution or one-directional hazard.

In cases where an exporting country inflicts damage both on itself and on other countries, however, it is more correct to speak of two-way pollution or reciprocal hazards. The distinction between up-stream (up-wind) and down-stream (down-wind)

countries is less accurate in such cases. Instead, net ‘exporters’ and net ‘importers’ are more accurate categories. Although an up-stream (up-wind) country has fewer incentives to change its emitting behavior than a down-wind (down-stream) country in cases of reciprocal hazards, both up-stream and down-stream (or up-wind and down-wind) countries have incentives to reduce environmental damage. Climate change belongs to the latter category.

2.2 The negotiation approach to actor identification

By introducing what we might label the negotiation approach, one wishes to draw attention to a complimentary approach to the substantive or problem structure approach.³ This approach puts less emphasis on the different roles of countries in creating specific transboundary pollution problems. The negotiation approach is to some extent inspired by game theory and negotiation theory and, while it includes elements of the substantive approach, it draws on perspectives developed in international regime analysis in particular. The most significant difference concerns the analytical intention to include representatives of all countries, stakeholders and coalitions of significance in global environmental negotiations. It consequently goes beyond up-stream (up-wind) and down-stream (down-wind) countries. Unlike the substantive approach, it also takes into account the institutional framework (“the rules of the game”) within which environmental negotiations take place and includes actors and processes which significantly influence international institutional development.

The negotiation approach would include countries with a preponderance of military and economic resources (i.e. hegemons), additional key countries, and coalitions, especially winning and blocking coalitions. Moreover, countries that are de facto political representatives of larger groups and coalitions would be expected to be influential. Upon identifying significant coalitions and other groups of actors, which is not a trivial analytical task, representatives of such groups and coalitions would be selected for inclusion in a model. Depending upon circumstances, regional organizations, and to a (much) lesser extent international organizations, would be

³ While having some similarity with the negotiation analysis developed by Howard Raiffa, James Sebenius and others, the negotiation approach is not identical to negotiation analysis. For an introduction, see James K. Sebenius, “Negotiation Analysis” in Kremenjuk (ed.) *International Negotiation: Analysis, Approaches, Issues*, pp. 203-15. San Francisco: Jossey-Bass.

modeled as either single actors or as (members of) coalitions of actors. It would furthermore be hypothesized that some countries are influential in their capacity of being, at the same time, sovereign states, coalition members, and contributors to international organizations.

Such expectations about influential actors and coalitions are primarily focusing on the ‘negotiation game’ itself. In addition, it is important to include the ‘basic game’, i.e. those activities that are subject to international regulation.⁴ Thus, although often made implicitly only, an important distinction can be made between the negotiations taking place within a specific institutional setting and the larger set of activities and actors that might be affected by the outputs of such negotiations. This distinction is particularly relevant in the case of global climate change where a range of key economic sectors might be affected by climate policy. To give an example, those countries that have control over important instruments and institutions in the energy area, for example international energy taxes and regional energy markets, and those who would be influenced by use of energy taxes and by energy market interventions, would also be included from the perspective of the negotiation approach.

3. Applying approaches to the case of global climate change

3.1 *Applying the substantive approach*

Admittedly, the substantive approach is simplistic and perhaps even crude. To recapitulate, according to this approach, countries can be divided into exporters and importers of transboundary pollutants. Importers will have strong incentives to enter into negotiations with exporters with the aim of reducing, stabilizing or eliminating emissions of transboundary pollutants from exporting countries. In reciprocal hazard cases the problem structure causes less divergence of interests between exporting and importing countries compared to one-directional hazard cases. These cases therefore imply more favorable conditions for reaching agreement among countries.

Despite the crudeness of the substantive approach, the climate negotiations to date could reasonably well be examined and modeled as negotiations taking place between groups of exporters of GHGs, primarily industrialized countries, and importers

⁴ For an elaboration of this distinction, see Arild Underdal, ‘Modeling the International Climate Change Negotiations: A Non-Technical Outline of Model Architecture’.

(of effects) of GHGs, primarily developing countries. To greatly simplify a sequence of complex negotiations, developing countries have basically opted for emission reductions being undertaken in industrialized countries, and industrialized countries have opposed such steps.

The Alliance of Small Island States (AOSIS), that is the group of developing countries which is expected to suffer most severely from a rising sea-level due to climate change, has put forward the most ambitious proposal for reduction of GHGs. The AOSIS proposal calls for developed countries to reduce their emission by 20% below 1990 levels by 2005. The members of the Organization of Petroleum Exporting Countries (OPEC), on the other hand, have been among those countries that are most strongly opposed to climate policy initiatives reducing global fossil fuel consumption. The oil exporting countries organized in OPEC are responsible for a significant part of the world's supply of fossil fuels, in particular oil, and are able to exert a considerable influence on the supply side. OPEC will suffer economically from a decline in global consumption of fossil fuels and has therefore a significant incentive to oppose climate policy at the international level. OPEC will supposedly not suffer severely from adverse effects of climate change.

Because most industrialized countries are net-importers of fossil fuels, it is necessary in the above to draw an additional distinction between producers and consumers of fossil fuels. Nonetheless, empirical developments clearly confirm the predictions of the substantive approach. Consequently, it seems valuable to follow a substantive approach in selecting significant actors in the climate change case. Based on the above, four suggestions can be put forward as follows:

Suggestions (1)-(4):

- (1) Representative members of the group of developing countries should be selected for examination;
- (2) Representative members of the industrialized countries should be selected for examination;
- (3) The AOSIS should be selected for examination; and
- (4) The world's primary coalition of petroleum-exporting countries (OPEC) should be selected for examination.

3.2 Applying the negotiation approach

It is unfortunately not possible for negotiation theory to predict ex ante exactly which countries and coalitions of countries will be pivotal actors in global climate negotiations. Despite this, many analysts would probably disaggregate the large global group of countries into at least developed and developing countries, and would furthermore identify a smaller core of climate-offensive countries.

According to James Sebenius, for example, ‘presumably the core group would include major contributors to the greenhouse problem in which there was substantial and urgent domestic sentiment for action. A natural starting core would be the twelve nations of the EC, the six members states of the European Free Trade Association, plus Japan, Australia, and Canada – all of which by 1992 had unilaterally or collectively adopted greenhouse gas stabilization or reduction targets. With the advent of the Clinton-Gore administration, the prospects for more active U.S. participation, support, and leadership certainly improve’.⁵ It is basically the group of OECD, especially the ‘green’ members, that Sebenius singles out to lead the climate negotiations and, in a sequential fashion, later expand their agreement to include key developing countries and former planned economies. This selection of countries takes into account the relative emissions aspect, similarly to the substantive approach, as well as a need for environmental awareness in countries trying to halt global GHG emissions. In other words, a combination of empirical analysis and theoretical assumptions about expected influence in international environmental negotiations guides the identification of a core group of climate-offensive countries.

In a similar way, the climate negotiation process to date gives useful empirical indications about the nature of key actors and processes. Importantly, it supports some of the more prominent negotiation theories and their predictions about international institutional development. First, there can be no doubt that the United States has had a major influence on both the pace and the content of the global climate negotiations. For example, until late in the pre-negotiation process, it was uncertain whether the United States was willing to sign the Climate Convention at the UNCED conference taking place in Rio de Janeiro, in June 1992. This forced many countries to consider the possibility of a Climate Convention that would not include the single biggest emitter of GHGs. Many countries declared that they rather preferred no treaty than a treaty without

⁵ James K. Sebenius ‘Overcoming Obstacles to a Successful Climate Convention’ in Henry Lee, ed., *Shaping National Responses to Climate Change: A Post-Rio Guide* (Wash. DC: Island Press, 1995), 70.

the United States. This clearly illustrates that large single emitters of GHGs exert a major influence on the climate negotiations thanks to their large contributions to the climate change problem. It is a further complicating factor that countries contributing large amounts of GHG emissions might encourage free-riding behavior by lesser contributors. Such behavioral effects also show the importance of including the United States in a climate negotiations model.

The process that led to the so-called protocol negotiation process shows that leaders among developing countries play a significant role in the climate negotiations as well. Initiated in the spring of 1995, the protocol negotiations are scheduled for completion in December 1997. Before spring of 1995, considerable uncertainty prevailed as to whether a sufficiently large group of developing countries was prepared to recognize that the global climate system might change as a consequence of anthropogenic emissions of GHGs. Acceptance was only secured after Brazil and China endorsed this view of the climate change issue. But it was feared among developing countries that by officially endorsing the climate change problem they would jeopardize their economic growth by risking obligations to reduce GHGs at some later point.

Later stages of the climate protocol negotiations indicate that the United States has continued to play a very significant part in climate negotiations among OECD countries. After the United States in 1996 supported that a climate protocol include binding commitments, for example, it was considered much more likely by many that the negotiations would be successfully completed - that is, with an agreed-upon climate protocol specifying a set of climate policies and measures and timetables.

The European Union proposed in March 1997 that OECD countries should reduce their emissions of greenhouse gases by 15 percent in 2010, compared to 1990 emissions levels. CO₂, CH₄, and N₂O were singled out. Significantly, the EU member countries agreed to differentiate the amount of emissions reductions internally. This EU bobble is an unprecedented example of burden sharing within the EU. By taking this step, the EU presented the most ambitious formal climate policy proposal from industrialized countries until then in the protocol negotiations. The EU had also played a visible role through beginning a process of defining the level at which greenhouse gas concentrations should be stabilized in order to prevent dangerous anthropogenic

interference with the climate system - the EU identified a need to stabilize CO₂ concentrations in the atmosphere below 550 ppmv.⁶

There have also been clear indications that single European countries such as Germany play an important role in maintaining negotiating and institutional momentum at a regional level. It should be noted, finally, that individual countries might play a significant instrumental role in development of specific policy proposals. Although not known with certainty, it seems evident that Norway has played a major role in the development of the concept of joint implementation (JI) and in getting some acceptance for the concept.

It might be relevant to include other industrialized countries, especially Japan. However, it will only be possible to intensively examine a few countries within the EU group of countries. It is furthermore relevant to include representatives from the considerable number of countries that perhaps are best described as medium-concerned, medium-resistant, and medium willing (i.e. medium level of abatement cost); clearly, other categorizations are also possible.⁷ For the most part, these countries are reacting and responding to the actions and policy proposals of other, more concerned countries. To cover the global scope of the negotiations, moreover, it is relevant to select representatives from three geographical groups; former planned economies in Eastern Europe, African and South American countries. Based on the above, six suggestions can be put forward as follows:

Suggestions (5)-(10):

- (5) Because of its large contribution of GHGs, the United States should be selected for examination;
- (6) Because of its influence on the range of policy proposals that is acceptable to the group of industrialized countries, the United States should be selected for examination;
- (7) China, India, Brazil and perhaps other leaders among the developing countries should be selected for examination;
- (8) Because of its suspected influence on the range of policy proposals that is acceptable to the group of industrialized countries, the European Union should be selected for examination;

⁶ Parts per million (10⁶) by volume.

⁷ Asbjørn Torvanger, Terje Berntsen, Jan S. Fuglestedt, Bjart Holtmark, Lasse Ringius and Asbjørn Aaheim (1996) '*Exploring Distribution of Commitments - A Follow-up to the Berlin Mandate*'. CICERO Report 1996:3, p. 185.

(9) Countries representing medium-concerned and medium-willing formerly planned economies and medium-concerned and medium-willing countries in Africa and South America should be selected for examination; and

(10) Countries that play an important instrumental role in development of policy proposals, e.g. Norway in the case of JI, should be subject to examination.

Finally, an important characteristic of the global climate problem structure is that no available feasible technical solutions or alternatives to and substitutes for fossil fuels exist or will become available in the immediate future. In addition, the world's energy demand most likely will be increasing in the next century. An increase in global GHGs emissions therefore seems most likely. Some of today's low-emitters are formerly planned economies, for example Poland and Russia, and developing countries, for example China and India. They are striving for economic growth and it is expectable that they will join the group of large and high-emitters of GHGs in the first part of the next century. As a consequence, because any effective global climate policy or climate agreement is dependent upon their participation, these countries will gain considerable bargaining leverage. This illustrates how the dynamic nature of the global climate change problem itself influences the climate negotiations.

4. Selecting a group of significant actors in global climate negotiations

Selected on basis of the previous sections, Table 1 contains thirteen countries, one regional organization and two coalitions of interests. It seems reasonable to argue that this sample constitutes a representative sub-group of the total number of countries negotiating global climate policy.

Table 1: The representative sub-group of countries negotiating global climate policy

	Emissions/ Sinks. Importance in 'basic game'.	Political influence in 'negotiation game'.	Vulnerable to adverse climate change effects (i.e. high damage costs)	Vulnerable to economic effects of climate mitigation policy (i.e. high abatement costs)	Representation	Issue- specific involvement
USA	✓	✓			✓	
Japan	(✓)			✓		
EU	✓	✓			✓	
Germany	✓	✓				✓
France/ Britain		✓				
Denmark/ Netherlands		(✓)				
Norway		(✓)		✓		✓
India	✓	✓	(✓)		✓	
China	✓	✓	✓		✓	
Brazil	✓	✓	(✓)		✓	
AOSIS		✓	✓			
OPEC		✓		✓		
Russia		✓				
Poland					✓	
Cameroon			✓		✓	
Chile			(✓)		✓	

Examining a number of issues raised by the substantive and negotiation approaches helps to begin the assessment and comparison of the individual and collective significance of actors. In an attempt to capture the essence of the two approaches, a number of questions are asked about the thirteen selected countries, the EU and the two coalitions: Is the actor a significant emitter or sequester of GHGs? Has it significant political influence? Is the actor vulnerable to effects of global climate change? Is the actor economically vulnerable to climate policy? Is it representative of a bigger group of countries? And, finally, is the actor involved in a specific policy issue in the global climate negotiations?

5. Final comments

It is obviously not feasible to model all countries that are negotiating global climate policies and measures. Perhaps fortunately, moreover, it is not necessary to include all countries in a model of the global climate change negotiations; some countries clearly have more influence than others do. In this brief paper I have argued that a group of thirteen countries, one regional organization and two coalitions of interests constitutes a reasonably representative sub-group. Notice that this number of actors is deliberately

kept low. It cannot be excluded that improving understanding of the case of global climate change or future developments in the global climate negotiations will make it necessary to reconsider this selection of actors. Until then, modeling this sample of countries and country groups hopefully will help improving our understanding of the dynamics of the global climate negotiations and the political feasibility of various policy proposal and measures introduced into this environmentally significant and politically fascinating global negotiation process.

This is CICERO

CICERO was established by the Norwegian government in April 1990 as a non-profit organization associated with the University of Oslo.

The research concentrates on:

- International negotiations on climate agreements. The themes of the negotiations are distribution of costs and benefits, information and institutions.
- Global climate and regional environment effects in developing and industrialized countries. Integrated assessments include sustainable energy use and production, and optimal environmental and resource management.
- Indirect effects of emissions and feedback mechanisms in the climate system as a result of chemical processes in the atmosphere.

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