



## **EUROPEAN UNION CARBON TAX**

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# STAKEHOLDER NEGOTIATIONS: EXERCISES IN SUSTAINABLE DEVELOPMENT

## INTRODUCTION

Stakeholder Negotiations: Exercises in Sustainable Development has been structured to engage students in a learning process about the tradeoffs, uncertainties and opportunities that business people and other decision makers face in the search for sustainable development. The negotiation format of the exercises was chosen in part to enable students to look beyond the corporation and to consider and evaluate the concerns and approaches of citizens, environmental groups, agencies and other important stakeholder groups. Negotiations were also chosen because they place the responsibility for learning and application in part on the participant – students learn about sustainable development, science, conflict and collaboration through the decisions they make during the negotiation process.

As a consequence of the negotiation process employed here, students and executives will naturally be exposed to negotiation strategies and to dispute resolution methods. In order to better prepare instructors for the negotiations components of these exercises and the lessons they create, we include a brief summary of negotiation strategy frameworks and their possible application to the sustainable development models central to this text. Most of the work recently done on negotiations has its roots in the work of Kenneth Arrow and John Nash in the 1950s. We include summaries of a few of the better known works of the past decade and provide a bibliography with a more complete listing of sources of information on negotiation strategy.

In The Art and Science of Negotiation, Howard Raiffa draws a variety of distinctions in negotiations that can be usefully applied to stakeholder negotiations. Perhaps the most important insight is how difficult negotiation processes become once more than two parties are participating. When the negotiation concerns numerous issues, when parties are not monolithic, and when the parties are likely to face each other in the future over other unrelated issues, complexity increases further. The scientific, economic and social issues which bear on all attempts to develop sustainable force stakeholders to define their interests and negotiate agreements under conditions of great uncertainty. Recognizing this inherent uncertainty and developing processes which allow for change and new information are critical elements of any successful solution to environmental challenges.

In Negotiating Rationally, Max Bazerman and Margaret Neale focus on the governance structure of the negotiation process itself. Bazerman and Neale advise participants in a multi-party, multi-issue negotiation to avoid majority rule, which ignores the power of a minority to stall or entirely prevent an agreement which is not unanimous. This is particularly important in settling environmental disputes, which often require all affected parties to cooperate in order to implement an agreement. In several of the exercises in this book, individual stakeholders possess the legal or financial capacity to render

agreements useless. In others, resource depletion or pollution cannot be prevented without full cooperation of the stakeholders. Bazerman and Neale also discourage negotiators from following “strict issue-by-issue agendas,” as groups that fall into this pattern may find themselves deadlocked over details which are in fact relatively unimportant or even irrelevant to the key issues of the negotiation. Furthermore, this type of agenda can stifle creativity and prevent negotiators from reaching better solutions.

In Getting to Yes, Roger Fisher and William Ury advise negotiators not to focus on positions but rather to move beyond these positions to understand the basic needs and concerns of the stakeholders. Fisher and Ury argue that bargaining over positions produces unwise agreements, stalls settlement and is therefore inefficient, and endangers any ongoing relationship among stakeholders. “Positional bargaining” becomes even worse when there are many parties involved. As an alternative, the authors offer four basic points of principled negotiation:

In Breaking the Impasse, Lawrence Susskind and Jeffrey Cruikshank echo the importance of moving beyond inflexible positioning in their discussion of “all-gain” solutions. They state that the development of “all-gain”, mutually beneficial agreements depends “on each disputant’s ability to invent a way of satisfying his or her own needs while meeting the opponent’s needs.”

These are, of course, just a few of the works that can be found that deal with negotiation issues. The lessons learned from our teaching of these simulations is that some framework of understanding negotiation is valuable, both to the instructor and to the participants.

Our experience in running these exercises is that students and executives who play roles in these simulations run for short periods of time (less than three hours) tend to fall into one of two patterns: they either overplay their roles, sharply emphasizing the conflicts that exist among stakeholders, or they develop efficient but somewhat unrealistic results. For example, players in the Columbia River Basin exercise might focus on who should pay, without considering the broader issue of whether any plan can realistically achieve an integration of environmental and economic goals.

As they are given greater periods of time to play their roles, participants become more comfortable with the uncertainties and the opportunities inherent in these tasks: 1) they begin to identify more closely with the stakeholders they represent, and imagine the difficulties that might be involved in selling and agreement to the individuals they represent: and 2) they begin to move beyond the required tasks and devise more creative and flexible solutions that fulfill the needs of diverse stakeholders.

In de-briefing the exercises, the faculty member can ask a variety of questions pertinent to the negotiation component of the exercise. Did stakeholders:

- listen to and respond to the interests of all parties at the table?
- use majority or consensus-based decision –making techniques?

- focus on interests or positions?
- identify and utilize information that could reduce uncertainties?
- build flexibility into their planning process?

The success of stakeholder negotiation focused around sustainability may ultimately rest on Raiffa's distinction between distributive and integrative negotiation situations. In distributive bargaining, parties see the issues on which they are focused as win-lose scenarios. Each can gain only at the expense of the other. However, as issues and parties multiply, and as time horizons are extended, the possibilities for a different win-win framework grow. Parties with different objectives may be able to trade-off agreements in order to achieve an outcome in which all are better off than they would be without agreement.

### **Overview**

The main purpose of this exercise is to demonstrate how joint gains can be achieved through cooperation. However, the negotiation can be used to draw out some additional observations, and these are referred to later in this note. The exercise may be particularly relevant for courses in *dispute resolution*, *international business* and *environmental management*.

The negotiation is very simple insofar as the negotiation game is one of common knowledge: every party knows what every other party knows, every party knows that every party knows what every party knows, and so on. This aspect of the negotiation is somewhat unrealistic, but the advantage is that it allows students to come to a resolution fairly quickly. One significant complication in the game is that, with 3 parties to the negotiation, it is possible that two parties may form a coalition against the third.

### **Background**

In May 1990, the Intergovernmental Panel on Climate Change (IPCC) published its scientific assessment on climate change. The IPCC concluded that human activities have increased the concentrations of so-called greenhouse gases in the atmosphere, and that such increases will enhance the natural greenhouse effect, resulting on average in an additional warming of the Earth's surface. The IPCC scientists reported that carbon dioxide emissions were primarily responsible for the build-up in atmospheric concentrations, and using large computer models, predicted that, if the trend in carbon dioxide emissions was not abated, the global mean temperature of the Earth would increase by about 1 degree Celsius by 2025 and 3 degrees Celsius before the end of the next century. Although the IPCC was at pains to emphasize the certainty of these estimates, its report also acknowledged the importance of feedback effects in determining climate change, and qualified its findings by adding that "...the complexity of the system means that we cannot rule out surprises."

On October 29, 1990, a joint Council of the European Union's (formerly the European Community's) Energy and Environment Ministers declared that the European Union and

Member States were willing to take actions aimed at stabilizing total CO<sub>2</sub> emissions at the 1990 level by 2000 for the Union as a whole. The European Commission estimated that emissions would be 12% higher in 2000 than in 1990 if no policies were introduced to reduce CO<sub>2</sub> emissions. Hence, achievement of the Union's target would require a 12% reduction in emissions by 2000. Importantly, the joint council did not decide how the responsibility for doing so would be shared by Member States.

### **Teaching the Negotiation**

I have tried running the negotiation in two different ways. I have had students carry out the negotiations outside of the classroom, and I have had select students carry out the negotiation live in the classroom. If the former approach is used, then the students should fill out the summary sheet attached to the case. If the latter approach is used, then this will not be required. On the whole, my experience of doing the negotiation live in class was more rewarding, but which approach is better will depend on the circumstances of the course you are teaching and of the students. If you do carry out the negotiation in class, I suggest that you assign a "team" to negotiate on behalf of each country group. The dynamics within such a team can be as interesting as those between teams.

You might instruct students that all agreements reached within a negotiation group are binding. This prevents students from defecting from an agreement at the last minute in order to receive a higher benefit. You may also wish to have each negotiation group record their results on a chalkboard, overhead, etc. so that students can evaluate and discuss each agreement.

### **The Core of the Game**

Based on a strictly technical approach, it is possible to identify a core set of outcomes to this negotiation-outcomes from which no coalition on its own or as part of a combination of coalitions would want to withdraw. This set of outcomes satisfies the following:

1. The sum of the payoffs is as large as is feasible; i.e.,  $A + B + C = 1,436$ .
2. Each coalition of two must get at least as much as they could get on their own; i.e.,  $A + B \geq 509$ ,  $A + C \geq 634$ , and  $B + C \geq 1,088$ .

(Notice that each coalition of two receives a payoff at least as great as they would receive if there were no agreement. In the absence of an agreement,  $A + B = 461$ ,  $A + C = 568$ , and  $B + C = 821$ . Hence, given that one country does not cooperate, the other two will cooperate.)

3. Each party on its own must receive a payoff of at least as large as it would receive by not cooperating with the other two; i.e.,  $A \geq 206$ ,  $B \geq 492$ , and  $C \geq 631$ .

An agreement which satisfies 1-3 above is in the core. Notice, however, that if condition 3 holds, then condition 2 holds. Hence, only conditions 1 and 3 are necessary to produce an outcome within the core.

Although most students will achieve outcomes in the core, they will achieve different outcomes. It is important for the instructor to point out that there is not right outcome among the set of outcomes in the core, although of course some coalitions receive a higher payoff in some outcomes than in others. Occasionally a student will extrapolate from the rules of a game, and in such cases the instructor should simply point out that this has been done.

Typically, students will approach the negotiation in the following way. They will notice that all parties are better off with a unanimous agreement (condition 1 above), and they will start from there. They will usually also notice that condition 3 must be satisfied, although it may take the students some time to articulate condition 3. Having done so, they might proceed by subtracting from the payoff in condition 1, the sum of payoffs listed in condition 3:  $1,436 - 631 - 492 - 206 = 1,436 - 1,329 = 107$ . Then, to satisfy condition 1, they might divide the gain to cooperation (107) evenly among the three players, or they might apply an alternative rule for dividing the gain.

### **Outcomes Outside the Core**

In real life, the negotiation process is not as simple as the game played here and outcomes outside the defined core could possibly occur. Even if a country is concerned solely with its own interests, it may accept a lower payoff in this one instance if it believes there will be some reward outside this game from doing so. It may try to link this issue with another being negotiated within the EU. Or it may wish to be seen to be “generous” so that it may enhance its relations with developing countries. Or it may believe that having a “generous” reputation can be of some strategic advantage.

Alternatively, the students may question that (implicit) assumption that a state’s preferences coincide with its own interests. Perhaps states care about the effect of their actions on others. Perhaps equity issues should be of intrinsic concern and not just of instrumental concern (as they largely are in the negotiation). For example, the case points out that Denmark has enacted a unilateral abatement policy in spite of the fact that it receives a negative net benefit in Table 8. It may be that Denmark believes that it receives benefits from abatement other than those incorporated in the data. However, the “rules” of this game dictate that if each coalition behaves rationally, it will not accept a payoff lower than the minimum defined in the core.

**Exhibit 1** contains a chart of some of the possible negotiation outcomes. **Exhibit 2** is a blank chart, which may be used in class to document and compare the outcomes arrived at by each negotiation group.

## Issues for Discussion

### Competitiveness

The adoption of a unilateral abatement policy by a single country or region may have negative impacts on the implementing countries, and may not guarantee clear environmental benefits. The main reason why the carbon tax has not been adopted by the EU is the concern about a loss of competitiveness. For example, the Scandinavian countries enacted unilateral abatement policies, apparently expecting other countries to follow their example. In fact, this did not happen and some countries may even have abated less than they would have otherwise. As a consequence, the Scandinavian policies were revised. Without an effective mechanism to enforce a region-wide agreement, a strong incentive to free-ride exists for individual countries. By backing out of an agreement to levy a carbon tax, a country could gain much of the benefit generated by emissions reductions while also creating a national competitive advantage through lower (fossil fuel) energy costs. If an EU-wide policy were unilaterally adopted and enforced, the entire region could suffer from a competitive disadvantage relative to the rest of the world. This discussion may also provide an opportunity to raise the claim made by Porter (1991) and others that environmental regulation can enhance competitiveness.

There is also a concern about the potential effectiveness of the unilateral policy with regard to environmental protection. Research has turned up different results regarding this issue. One study finds that most of the abatement undertaken by Europe would be offset by an increase in emissions outside of Europe, where—and this is important—this increase results from the original abatement undertaken in Europe. Another study finds that emissions outside of Europe would not rise by much as a consequence of the unilateral policy. Whatever the quantitative effect, this phenomenon, known as “leakage”, has certainly worried policymakers.

Leakage is transmitted through two channels. First, as suggested above, the unilateral policy would raise the costs of carbon-intensive industry in Europe, and hence shift comparative advantage to countries which do not impose the tax. Production, and hence emissions, would thus rise outside of the EU precisely because of the EU policy. Second, the unilateral action would reduce the world demand for fossil fuels, and hence cause the price of such fuels in international markets to fall. As a result, demand for such fuels, and emissions, would rise outside of the EU, again precisely as a result of the EU policy. You may wish to focus a class discussion on the potential magnitude of “leakage” and the need to secure a truly global agreement on climate change.

As a postscript, the Commission has now taken a different tack in trying to win acceptance of the carbon tax proposal. This track recognizes the *economic* benefits of the tax in the context of public finance. Most taxes exist to raise revenues, but introduce distortions. The example which the commission focuses on is that of employer’s social security contributions. This tax raises the cost to business of

employing people, and the magnitude of this tax may be partly responsible for the persistently high levels of unemployment in Europe. Research by the Commission (1994) has shown that if the revenues from the proposed carbon tax were used to reduce the magnitude of employers' contributions at the margin, then the long-run effect would be a 1% reduction in unemployment. In other words, even ignoring the environmental benefits of the carbon tax, the tax may be justified solely for reasons of public finance. How might this observation affect the appeal of the carbon tax as a unilateral policy?

### **Some Further Observations**

Discussion of the case might consider a number of related issues:

1. How might the costs and benefits be calculated? For discussions, see Nordhaus (1991) and Cline (1992)
2. Suppose the game were such that each player knew its own benefits and costs but didn't know the benefits and costs of the other players. In this case, the parties may fail to reach agreement, even if the agreement would make all parties better off. Even if they did reach agreement, the resulting agreement may not exploit all opportunities for joint gain. In general, in such games of incomplete information in order to exploit opportunities for joint gains. Taken to an extreme, players may wish to carry out joint research in order to arrive at a common view of the problem. This is in fact how many environmental issues are negotiated at the international level, and it is one reason why the assumption of common knowledge is not entirely unacceptable in this exercise. Books that touch on these issues include Raiffa (1982), Dixit and Nalebuff (1991), and McMillan (1992).

### **References**

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**Exhibit 1**

**POSSIBLE NEGOTIATION OUTCOMES**

	<b>Group 1</b>	<b>Group 2</b>	<b>Group 3</b>	<b>Group 4</b>	<b>Group 5</b>	<b>Group 6</b>
<b>A</b>	104	206	478.7	206	128	313
<b>B</b>	357	599	478.7	492	381	492
<b>C</b>	464	631	478.7	738	631	631

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**Exhibit 2**

**EUROPEAN UNION CARBON TAX NEGOTIATION  
OUTCOMES**

	<b>Group 1</b>	<b>Group 2</b>	<b>Group 3</b>	<b>Group 4</b>	<b>Group 5</b>	<b>Group 6</b>
<b>A</b>						
<b>B</b>						
<b>C</b>						

*Cut Here*