# Case study on the actors and their coalitions in the formation of plural environmental regimes - case of carbon capture and storage in sub-seabed geological formations

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## Abstract

While various regimes are seen in many fields, plural environmental regimes which deal with the same environmental issues coexist. This paper focused on the actors and coalition behavior in the negotiation on the development of new schemes for environmental impact assessment on carbon capture and storage under the sub-seabed (hereafter, “CCS”) under two regimes, specifically, the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 29 December 1972 and the Convention for the Protection of the Marine Environment of the North-East Atlantic. The two regimes have institutional linkage and interplay in the context of CCS. The institutional linkage was actually carried out by the state actors and their coalition. The coalition was expanded through the accumulation of discussion for both legal and technical aspects of CCS, under the instrumental type leadership of core group. In this case, the parties which supported the amendment found profit by mutual support and understanding of the situation brought by members of the coalition. The opposite parties without coalition could not address the topic in an effective way. They didn’t counter the proposal on CCS issues and could not increase the support of other parties, which were defeated by voting on the amendment of the protocol. This situation

would explain the effectiveness of coalitions based on counterfactual assumption, but further examination of other cases should be required if we deserve the generalization of the effectiveness.

## 1. Introduction

Various regimes have been formed in response to the need to solve international environmental problems, there are cases where two or more regimes which deal with the same problem coexist. The more international regimes become dense and stringent, the more it becomes an issue for actors and their coalitions to struggle with the contradictions between the regimes (Yamamoto, 2008). Numerous attempts have been made by scholars to grasp the relation between regimes in various fields (Adachi, 2009). Interplay management refers to conscious efforts by any relevant actor or group of actors, in whatever form or forum, to address and improve institutional interaction and its effects (Stokke, 2001, Oberthür, 2009). A recent study shows that interactions between regimes can produce mutually beneficial and even synergistic results (Oberthür and Gehring, 2006). A further dimension of interplay management concerns the instruments or means actors use to avoid or deal with disruptive interplay or to maximize synergy (Oberthür and Stokke, 2011).

Various actors join the negotiations for the development of regimes, the interplay of regimes and institutional linkage are developed by actors. Relevant actors may advance interplay management at various levels of coordination among those involved (Oberthür, 2009). Several recent studies refer to the importance of the performance of actors involved in regime formation in both the starting framework setting and the steps of rules (Berton, Kimura and Zartman, 1999). Also, the coalition consisted of actors in negotiation has been focused by scholars and approached interdisciplinary (Stevenson, Pearce and Porter, 1985).

Although previous researches focused on interests in the interplay between regimes or the categorization of institutional linkage between regimes, only a few attempts have so far been made at conducting case studies paying attention to the behavior or performance of the actors and their coalitions which are observed in actual regime formation and interaction negotiation. In an actual international regime formation negotiation, especially in the cases which plural regimes are developed in a parallel way to deal with the same environmental issue, the same actors would address the negotiations. How do the actors perform in the negotiations to coordinate the two different regimes? Does institutional linkage of regimes occur in those cases? How the actors formulate a coalition to have a "big voice" in a negotiation? Does the coalition grow in another forum to discuss another regime development?

In order to seek the answers to these questions, the purpose of this paper is to analyze regimes which have dealt with the same environmental issues as cases to examine the types of institutional linkages and the behavior of actors/ coalition focusing on the formation of interplay coordination of regimes. Then, the effectiveness of coalition formation would be stressed within the limitation of examined cases.

This paper deals with two regimes, specially the following; 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 29 December 1972 (hereafter, "London Protocol") and the Convention for the Protection of the Marine Environment of the North-East Atlantic (hereafter "OSPAR Convention").

The main reason for the selection is the timing of the revisions. These two regimes were revised in the same time period in order to equip new schemes for environmental impact assessment on carbon capture and storage under the sub-seabed (hereafter "CCS"[1]). Therefore, there are many actors who have related to both regime developments to seek the consistency or to challenge the revisions, which would serve several aspects to be examined.

### 1.1 Outline of the two regimes

It would be helpful to introduce the outlook of the two regimes, namely OSPAR Convention and London Protocol before moving on to the main task.

#### 1.1.1 OSPAR Convention

The homepage of OSPAR Convention describes the convention as "the mechanism by which fifteen Governments of the western coasts and catchments of Europe, together with the European Community, cooperate to protect the marine environment of the North-East Atlantic." It started in 1972 with the Oslo Convention against dumping. It was broadened to cover land-based sources and the offshore industry by the Paris Convention of 1974. These two conventions were unified, up-dated and extended by the 1992 OSPAR Convention.

The fifteen Governments are Belgium, Denmark, Finland, France, Germany,

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1 Carbon capture and storage under sub-seabed (CCS)
CCS refers to technology attempting to prevent the release of large quantities of capturing carbon dioxide (CO2) into the atmosphere from fossil fuel use in power generation and other industries by capturing CO2, transporting it and ultimately, pumping it into underground geologic formations to securely store it away from the atmosphere. It is a potential means of mitigating the contribution of fossil fuel emissions to global warming. Although CO2 has been injected into geological formations for various purposes, the long term storage of CO2 is a relatively new concept.

Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Members of government negotiated on the possible arrangement of schemes for issuing a permit for the CCS project in that ocean area. Doing so, forces entrepreneurs in that ocean area to submit an environmental impact assessment on the possible environmental damage caused by CCS project implementation and leakage of CO2 from the injected site. OSPAR Convention was amended to equip CCS permit system in June, 2007 and entered into force in January, 2008. The OSPAR Guidelines for Risk Assessment and Management of Storage of CO2 Streams in Geological Formations was also discussed and decided in June, 2007.

### 1.1.2 London Protocol

The London Protocol originally aims to control the disposal of waste dumped to sea from a vessel. Parties may issue permits to allow the dumping of the specified materials which are listed in the appendix of the protocol. It went into effect and was adopted in March, 2006. The number of contracting states are 42 as of May, 2012.

In the First Meeting of Contracting Parties in November, 2006, the proposal to add carbon dioxide as one of waste and other matter to be dumped under the sub-seabed was discussed and decided, which came into force in February, 2007. The technical guidance on the environmental impact assessment framework on CCS was adopted in November, 2007.

## 1.2 precedence research on institutional linkage and interplay between regimes

Since the 1970s, scholarship on political frameworks has expanded to include

international regimes/ international institutions, and the international society of states. There have been many studies on institutional linkage of regimes, or the categorization of interplay of regimes based on international agreements. Young categorized and classified the types of institutional linkage, relationship between regimes, which are closely connected to each other (Young, 2002). Young specifically indicates the linkage of two or more regimes in four types; embedded, nested, clustered and crossed types. Stokke examines the relationship between institutional interplay and the effectiveness of international regimes. The examination shows three types of interplay; "utilitarian interplay", the "normative interplay", and "the ideational interplay" (Stokke, 2001). Gehring and Oberthür focus on the mechanisms of which interplay of regimes occurs and pointed that interplay takes place through recognition change, a commitment and action or impact (Gehring and Oberthür, 2006 ).

Previous research examined regime formation and interplay by focusing on existing cases[2], however, the behavior of the actors at the time of formation has not been documented.

## 2. Discussion

We will begin by considering whether institutional linkage and interplay is observed in two regimes, and then examine the actor/coalition performance in the

[2] Young et al (Young, Chambers, Kim and Have, 2008) examined trades with biodiversity , Adachi studied security issues i.e. anti-personnel mine, a regulation of small arms, a cluster bomb ban treaty (Adachi, 2009), Oberthür, Dupont and Matsumoto followed the past negotiation on chlorofluorocarbon alternative in the Montreal Protocol and Framework Convention on Climate Change (Oberthür, Dupont and Matsumoto, 2010), Gillespie (Gillespie,2002) and Okubo et al applied the Gehring's framework to analyze the whales management regime (Okubo et all, 2011).

negotiations.

2.1 Institutional linkage of two regimes and the type of interplay

The OSPAR Convention geographically covers marine environment protection of the North-East Atlantic ocean, while the London Protocol aims at preventing marine pollution by dumping waste in the sea without geographical limitation. As a result, the geographical coverage of the two regimes are overlapped, the coverage of the London Protocol includes that of the OSPAR Convention. The comprehensibility of geographical coverage is also applied to the relation between contracting states concerned.

Based on Young's analysis on the types of institutional linkages between regimes, specifically the linkage of two CCS regimes in OSPR convention and in the London Protocol would be regarded as an 'Embedded' type. Young pointed out that issue-specific regimes are deeply embedded in overarching institutional arrangement (Young, 1999). Geological overlap in the two CCS regimes requires the embedded types of linkages of these two regimes. The norms and rules on CCS are the same to the two regimes[3]. Actually, the scheduling in relation to the meetings and discussions have similar legal framework and technical arrangements were decided by state actors and their coalition in order to avoid a conflict between the two regimes.

The Secretariat of the two conventions and chair groups also carefully set the schedule for negotiating meetings and intercessional work. Specifically, the two regimes

[3] For example, the concept of necessity of environmental impact assessment to be conducted if a person or entrepreneur intend to carry out CCS project in public sea, the limitation of concentration of CO2 in the injected streams, topics to be covered in the environmental impact assessment.

provided mutual feedback for possible regulation schemes and technical arrangements for necessary environmental impact assessments.

## 2.2 The related actors in the negotiation of two regime formation directly and indirectly

This part describes the related actors in the negotiation of two regimes formation directly and indirectly. The detailed stance and performance of state actors will be discussed later part.

### 2.2.1 State actors

In real negotiation of a regime formation, states actors in a negotiation carefully consider the contents of the regimes to avoid conflicts of regimes. States actors are required to settle municipal law to implement internationally agreed rules in the regimes. If an inconsistency arises by the contents of those regimes dealing with the same problems, a state will face difficulty to amend or settle municipal laws to correspond to contradictory contents of two or more regimes.

As the geographical scope of two regimes overlap, there are some states which have contracted both regimes, some states have contracted the London Convention and London Protocol but not the OSPAR Convention. Some states only contracted the London convention and have observed states in the decision making of the London Protocol.

Although only protocol contracting parties have voting rights in decision making in the negotiation of the equipment of CCS legal arrangement in the London Protocol, the contracting parties of the London Convention can join discussion on legal text and technical guidance as observers. In short, the London Convention contracting parties

can take part in the coalition if a party finds merit to gain bargaining power by joining the coalition and to argue in one voice.

In the negotiation of two regimes, state actors are classified in three groups as follows.

2.2.1.1 The contracting parties which have joined the two regimes: OSPAR Convention contracting parties, “OSPAR parties”

Respectively, Belgium, Denmark, European Commission Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherland, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom are classified in this group.

Strictly saying, the Netherlands could not be classified in this group, because its accession of London Protocol was September, 2008, after the decision on the amendment of London Protocol. The Netherlands could not join the decision making of CCS equipment in the Conference of Parties of Protocol which was held in November, 2006. However, in this paper, the Netherlands is regarded to be classified in this group; despite participating later in the regime by making accession later premisely. In general, for a state actor, it would be the case to be avoided as far as they could reserve their accession for a specific part of a legally binding instrument,. The Netherlands selected to access the revised London Protocol with CCS regimes, rather than to make a reservation on the part. Being compared with the contracting parties of only the London Convention, the Netherlands may be considered to seek the consistency much seriously, because the inconsistency between the two regimes would make it difficult for the national authorities to settle domestic legislatives corresponding to the obligation of two

regimes.

2.2.1.2 The contracting parties of one regime parties which contracted the London Protocol, and are not OSPAR Convention contracting States (LP parties)

The number of the 1996 protocol contracting parties was 31 in the stage of the First Meeting of Contracting Parties in November, 2006 which considered the protocol revision for CCS; Canada, Australia, Saudi-Arabia, and China, were mentioned as major states actors which participated in the examination of CCS introduction in the protocol

2.2.1.3 Parties which are not contracting parties of the 1996 protocol, but only London Convention (LC parties)

In Conference of Parties of London Convention and Meeting for Contracting Parties of London Protocol, the LC parties were provided the status as “observers”, which were allowed to join the negotiation for the possible amendment regarding the legal text of the protocol. In short, some LC parties acted in the negotiation of amendment of protocol, namely the United States and Japan. Both delegations clearly expressed their willingness to equip the CCS regimes in the protocol, expecting the possible potential of CCS as one of the future mitigation measures against global warming.

2.2.2 International organization actor

An international organization actor, such as a convention secretariat, plays important roles in the negotiation under the convention. One of the roles is to determine the schedule of a negotiation with chair groups. In two regime formation negotiations

about CCS, examination of the legal and technical aspects of CCS was paralleled at the same period.

Another international organization which should be paid attention in this case is the body which serves the scientific knowledge on CCS, namely Intergovernmental Panel on Climate Change (IPCC).

Governments and international bodies increasingly organize scientific assessments to obtain information about the problems at hand (Biermann, 2002). Scientific assessments provide an opportunity for learning from past experience and from other assessment experiences which gives them the opportunity to become more powerful institutions in the process of solving environmental problems and in advising political decision-making (Siebenhüner, 2002).

IPCC published a special report about carbon dioxide capture and storage in 2005. The special report featured scientific knowledge of carbon capture and storage from the view point of conducting the project and possible effect on marine eco-systems. The report served as a common platform for knowledge which made it easy to illustrate the environmental impact assessment introduced in the two regimes.

### 2.2.3 Non-state actors - Industry actors

Some analysis of actors in negotiations refer to the characteristics of industry actors as to lobby to national delegations and powered politicians. One of the aims of lobbying is to advocate related stakeholders to lead the discussion topics in a negotiation to be more profitable for the industry sector or company. A study specifically illustrates the existence of formal and informal networks among business

NGOs and demonstrates how their networks are tactically invoked in the effort to influence specific negotiation processes and outcomes on CCS (Vormedal, 2008). Specifically, CCS discussion including regime formation, state-of-the art technical aspects and business opportunity is brought up by related industries. The stakeholder companies have established a forum which aims to update the CCS project proponents and related policy and regulatory matters, and disseminate the necessity of CCS itself and revision of international rules to manage CCS.

One of the most active industry actors in the CCS context regime development is BP, which conducts its global business and produces oil and natural gas from under the sea-bed worldwide. BP carried out the campaign activity to promote awareness on CCS to the countries in which industries national or local governments have the potential to plan and implement CCS projects.

### 2.2.4 Non-state actors - NGO actors

Some decision making bodies of multilateral environmental agreements allow the participation of specific NGOs through the admission by contracting parties. Some studies define the NGOs' role in multilateral negotiation as to propose new concept and monitor the implementation and obligation of parties in the regimes. Greenpeace, one of the international NGOs, participated in the discussion forum including Meeting of Contracting Parties of the London Convention. The representative of the organization pointed out the necessity of discussion on the possibility of CO2 to be included in the list of possible waste to be disposed, recalling CCS, when the 1996 protocol amended related articles to allow wastes and other matters to be disposed under sub sea bed.

Moreover, the NGO and academia would have potential to take the role of

knowledge base contributor to input their analysis on legal context (Purdy, 2006). Tyndal Center, one of the NGOs in UK, published a working paper to streamline the possible options of international legal arrangement of two regimes to accommodate the idea of CCS in international legal text (Purdy and Macrory, 2004). The streamlining of possible legal arrangement as scientific knowledge in the working paper served as the bases for the governmental officials to consider the design of two regimes.

### 2.3 State actors' negotiation stance and formation of coalition

This part outlines the state actors' negotiation stance and, coalition in the negotiation of two regimes of CCS legal and technical discussion.

#### 2.3.1 Precedence of negotiation of OSPAR convention regime

In two regime formations, the legal and technological analysis and discussion in OSPAR convention preceded with examination of London Protocol. It was envisaged that the parties that contracted both two regimes considered reaching consensus on the legal and technical aspects of CCS issues relatively with small obstacles for the following reasons. Number of the contracting parties of OSPAR convention is relatively smaller than that of the London Protocol. The economic and developing status of the contracting parties of the OSPAR convention was similar to each other, which serve as the basis to equip the CCS as one of the possible mitigation measure against climate change.

#### 2.3.2 Core states in OSPAR convention formulate coalition

The Netherlands, Norway, and the United Kingdom led the argument in the

OSPAR Convention which was inquired by preceding the London Protocol. The three parties took their specific roles in the formation of CCS regimes. Norway, which has experience of real projects in the North Sea, contributed to indicate the merit of CCS and the knowledge gained through the planning and conducting the projects in the technological discussion regarding the guideline development specifically concerning an environmental impact assessment. The Netherlands served as the chair of the technical examination committee in OSPAR Convention, led the argument to develop the guidance manual on environmental impact assessment required under OSPAR Convention. Also in the discussion in London Protocol, the Netherlands contributed to the technical discussion by inputting knowledge on the process and results of argument in OSPAR Convention. The United Kingdom took the role of chair of legal examination.

The three OSPAR parties which supported the equipment of CCS related legal text and technical guidance performed and were regarded as the “core group” coalition among OSPAR parties. This core group coalition worked as a seed of the coalition in the negotiation of CCS in the London Protocol. They succeeded to make more parties to support the idea of CCS rule in the protocol by showing instrumental knowledge elaborated in the discussion in OSPAR Convention.

Underdal supposes that an individual who possess the scientific knowledge in the negotiation in connection with new environmental problems, such as climate change issues, takes leadership in negotiation (Underdal, 2004). Underdal named this type as instrumental leadership, which three states of core group shown in the negotiation would be classified.

2.3.3 Expansion of the coalition in London Protocol examination

In parallel, the legal and technical aspects were also examined in the sub group of London Protocol. The final drafts of the legal text and technical guidelines for the CCS environmental impact assessment were examined and shaped by spring of 2006. The First Meeting of Contracting Parties to the 1996 Protocol to the London Convention was held in autumn in 2006. At that time, CCS discussion in OSPAR Convention was not finalized.

Some OSPAR parties supported the CCS issue emphasized the merit to have a variation regarding mitigation measures against global warming, and the CCS is counted as one of the possible technologies. Some of the LP parties and LC parties are associated with the view and have joined the coalition.

Other parties showed their concern for the lack of enough scientific evidence influencing on the marine environment caused by CCS and leakage of CO2 from stored layer under seabed. Especially, some OSPAR parities were still concerned about the possible pollution caused by the leakage of CO2 from CCS site and were not finally associated with the idea to allow CCS projects to be conducted in the public sea, and regarded the Meeting of Contracting Parties as the fora to revisit the appropriateness of equip the CCS schemes in the two regimes.

Australia submitted its proposal to amend the protocol to allow the national authorities to issue permit for CCS project if the appropriate environmental impact assessment was conducted. The specific contents of the proposal were for the amendment of protocol annex, so-called "reverse list" for exception of possibly

acceptable waste while all dumping is prohibited under the convention, to add CO2 streams from CO2 capture processes for sequestration in the list. The motive of Australia for this submission is supposed that it was planning a project for injection of CO2 in the offshore natural gas field. The amendments state that carbon dioxide streams may only be considered for dumping, if disposal is into a sub-seabed geological formation; they consist overwhelmingly of carbon dioxide. There were concerns on the pollutants which may be contained incidentally, and on the intentional mix of wastes or other matter to be added for the purpose of disposing of them.

The proposal was associated with France, Norway, and United Kingdom, which can be regarded as the specification of their substantial participation in coalition.

Although the United States and Japan did not have the right to participate in a final protocol revision, instead of a protocol contracting parties in those days, in examination of the technical guideline of CCS performed in parallel, they showed the posture of support. Specifically, United States took the role of chair of the development of technical guidance on CCS environmental impact assessment in London Protocol. In this meaning, they are regarded as members of the coalition.

2.3.4 The opposite parties without coalition

Negotiation of two or more regimes on specific issue would be envisaged the ideational interplay to avoid the confrontation and inconsistency. On the contrary, when there were state actors dissatisfied with the contents of the regime examined preceding, the simultaneous discussion schedule may leave the door open to further

negotiate and allow the opposite parties to maneuver in in another regime formation. Germany and Denmark, both OSPAR and LP parties, performed to revisit their concerns on possible environmental impact by CCS and future leakage of CO2 in the meeting of LP parties (Suzumura, 2007).

Some of other LP parties, namely China and South Africa, have also showed their hesitation of the amendment of the protocol on CCS. However, China, Denmark and South Africa objected to the CCS in London Protocol did not perform as a coalition. In addition, they did not share a common opinion or mutual support in the floor. Also they, could not show the confrontation proposal which resists the argument of the coalition to support CCS, and was not able to prevent formation of the protocol amendment proposal as a result.

From what has been observed, one may say that the institutional linkage between two regimes on CCS was carried out by state actors and their coalition. In multilateral negotiations, coalitions would strengthen and elaborate a members' stance and opinion based on the mutual understanding and improvement of strategy toward the negotiation. In the CCS regimes case, the parties which supported the amendment found profit by mutual support and understanding of the situation brought by members in coalition. The opposite parties without coalition could not address the topic in an effective way. They didn't counter the proposal on CCS issues and could not increase the support of other parties, which resulted by the defeat of voting on the amendment of the protocol. This situation would explain the effectiveness of coalition based on counterfactual assumption. Further examination of other cases should be required if we deserve the

generalization of the effectiveness.

One purpose of this paper is to examine the performance of actors and coalition effectiveness, therefore, the subject of analysis is the development stage of the two regimes. The status and actual contents of interplay of two regimes, however, would be changed as the scheme deal more cases in the future (Anderson, 2002). Whether intended consistency of two regimes was actually implemented or not will be remained for further debate.

## 3. Conclusions

This paper analyzed the actors and coalition behavior in the negotiation on the development of new scheme for environmental impact assessment on carbon capture and storage under sub-seabed. The two regimes, OSPAR Convention and London Protocol, have institutional linkage and interplay in the context of CCS. The institutional linkage was actually carried out by the state actors and their coalition. The coalition was expanded through the accumulation of discussion of both of legal and technical aspects of CCS, under the instrumental type leadership of the core group. In these cases, the parties which supported the amendment found profit by mutual support and understanding of the situation brought by members in the coalition. The opposite parties without coalition could not address the topic in effective way. They did not counter the proposal on CCS issues and could not increase the support of other parties, which were defeated by voting on the amendment of protocol. This situation would explain the effectiveness of coalition based on counterfactual assumption, but further examination of other cases should be required if we deserve the generalization of the

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