# UNDERSTANDING GLOBAL DISCONTINUATION GOVERNANCE

## An explorative case study on the Minamata Convention on Mercury

*Master thesis – Public Administration*

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# Abstract

The Minamata Convention on mercury is a globally binding instrument to discontinue the use of mercury over its entire life chain. The governance of discontinuation can be conceptualized as the collectivity of efforts that aim to initialize or end, align or de-align, with a binding character, concerted action across multiple, competing modes of making, maintaining, and destabilizing social order for public or private purposes (Stegmaier, et al., 2016, p. 5). Since (global) discontinuation governance is an understudied phenomenon in policy science, this thesis contributes to a better understanding what it means to globally govern the discontinuation of a socio-technical system by exploring the mercury case: the global attempt to discontinue the use of mercury over its entire life chain. The global discontinuation of mercury is an interesting case because the whole life chain is attempted to be discontinued by the United Nations and the discontinuation will happen on a global scale. Both these aspect imply that the discontinuation of mercury will be a very complex (governance) process. The research goal will be achieved by analysing the negotiations prior to the establishment of the Minamata Convention on mercury by means of the three pillars by Borrás & Edler (2014). With these three pillars the most important governance processes in the agenda-setting dimension, the instrumentation dimension, and the most important legitimation claims will be analysed and discussed. Therefore the central question is: *How is the discontinuation of mercury governed in the global UN setting and what does this mean for the concept global discontinuation of governance?*

The sub questions in this research are:

1. *What and who has driven the deliberate global discontinuation governance of mercury?*
2. *How is the global discontinuation of mercury governed and by which means?*
3. *Which claims are made in order to make the global discontinuation governance on mercury acceptable?*

The negotiations (the Open Ended Working Group meetings and the Intergovernmental Negotiation Committee meetings) that have led to the establishment of the Minamata Convention are analysed in this thesis by means of the programme ATLAS.ti, which helped to manage the large and complex policy documents. To do so I used an interpretative research approach analysing the negotiations: understanding the ways in which the convention unfolds its own reality as a governance phenomenon with a prime interest to find interesting empirical patterns and concepts in the data that may contribute to the existing literature, while looking at the phenomenon through the lenses of some matching 'sensitising concepts' from literature functioning as heuristics.

In the analysis I have made use of the concepts ''dimensions'' and ''streams'' in order to emphasise the processual and interactive character of the governance processes that I have analysed. Through the analysis it became clear that both the discontinuation aspect and the global aspect of the mercury case have led to several global discontinuation processes and issues that are characteristic off this global effort to discontinue the use of mercury by an active act of governance. In the *agenda setting dimensions* the availability of alternatives is a necessary opportunity in the mercury case, in order for the policy entrepreneur to take action. In the *instrumentation dimension* an extra policy making stream appears in the global discontinuation governance of mercury case. Because of the discontinuation aspect and the global aspect, a preparation stream can also be characteristic in other global discontinuation governance cases. The *preparation stream* is about action already undertaken after the course of action stream and before the *implementation stream*. In the *legitimation dimension* it appeared that the policy makers make use of eight legitimation strategies, of which four strategies to legitimise the discontinuation and of which four strategies to legitimise the global approach, together in order to legitimise the global discontinuation governance of mercury.

For the concept of global discontinuation governance this means that global discontinuation governance is also about replacing or enhancing socio-technical systems or technologies and that other policy issues appear and other policy process are used in the global discontinuation policy making process in comparison with other policy issues.

# Preface

This master thesis, ''understanding global discontinuation governance'', explores the concept of discontinuation governance by studying and analysing the governance processes that have led to the development of the Minamata Convention on mercury. I have conducted this explorative research as part of the Master's programme Public Administration at the University of Twente.

I first learned about the concept ''discontinuation governance'' during the Master class: '' Policy analysis in public and technical domains''. I came in contact with the enthusiastic and committed lecturer of this course: Dr. P. Stegmaier. Together we discussed many potential master thesis subjects, but in the end we were both enthusiastic about one subject in particular: the global discontinuation of mercury by means of the Minamata Convention.

With this master project I hope to contribute to the understanding of the concept discontinuation governance. Hopefully my thesis will be a part of the puzzle for further research & development. I have enjoyed working on this project because of its both interesting and challenging subject.

Hereby I would like to thank the people who have supported me in conducting this research. Especially, I would like to thank my first supervisor, Dr. P. Stegmaier for his commitment and support in supervising my master project. I am grateful for his patience during the upstart of my research and at the end for his full attention and efforts when my project was at its final stage. In addition, I would like to thank my second supervisor, Prof. Dr. S. Kuhlmann for his helpful feedback.

Of course, I would like to thank my family for their support during this research project. Last, I would like to thank my ''ghost reader'' Elise Meussen for checking and improving my grammar and spelling.

**Marita Bulten,**

**Enschede, June 2016**

# Content

# Abbreviations and definitions

**GEF =** Global Environmental Facility (trust fund)

**INC =** Intergovernmental Negotiation Committee (mandated to prepare a global legally binding instrument)

**The Mechanism** = The Mechanism is to both financially and technically support developing country Parties and Parties with economies in transition in implementing their obligations under this Convention. The Mechanism shall include:

(a) The Global Environment Facility Trust Fund; and

(b) A specific international Programme to support capacity-building and technical assistance.

**OEWG =** Open Ended Working Group (mandated to review and assess options for enhanced voluntary measures and new or existing international legal instruments)

**Party =** means a State or regional economic integration organization that has consented to be bound by this Convention and for which the Convention is in force;

**Treaty =** means an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation;

**UN =** United Nations

**UNEP =** United Nations Environmental Programme

**WHO =** World Health Organisation

# 1 Introduction

## 1.1 Problem indication and research scope

In 2013, a global treaty to tackle the effects of mercury called the Minamata Convention on Mercury (Minamata Convention) is opened for signature. This global agreement tries to discontinue the entire live chain of mercury on a global scale (UNEP, 2014a). The establishment of a global instrument to discontinue the entire life chain of mercury implies two major puzzles. Namely, how to govern the discontinuation of so many (embedded) mercury uses? And what does it mean to govern the discontinuation in such a comprehensive (global) setting? These puzzles are based on the assumption that a global approach implies the involvement of various, and different, actors. For example, the Minamata Convention has to deal with both developing countries as with developed countries (art. 13, Minamata Convention, 2013).

The establishment of the Minamata Convention as an instrument to discontinue the entire live chain of mercury can be seen as a case of deliberate governance of discontinuation of a socio-technical system. But what does ''the discontinuation governance of a socio-technical system'' actually mean? The governance of discontinuation can be conceptualized. The governance of discontinuation can be conceptualized as the collectivity of efforts that aim to initialize or end, align or de-align, with a binding character, concerted action across multiple, competing modes of making, maintaining, and destabilizing social order for public or private purposes (Stegmaier, et al., 2016, p. 5). In the mercury case, the legal instrument, the Minamata Convention, aims to end the entire live chain (the socio-technical system) of mercury in order to protect the human health and the environment (Art. 1, Minamata Convention, 2013). Socio-technical systems can be seen as articulated ensembles of social and technical elements which interact with each other in distinct ways, are distinguishable from their environment, have developed specific forms of collective knowledge production, knowledge utilization and innovation, and which are oriented towards specific purposes in society and economy (Borrás & Edler, 2014, p. 11). In the mercury case, mercury is used for lots of different purposes, such as a component in batteries or switches and the use of these products is established in lots of households but also lots of other applications (Annex A, Minamata Convention, 2013). But mercury is also used and polluted in several production processes. In addition, the discontinuation governance of mercury is set in a global arena since the Minamata Convention aims to globally discontinue mercury over its entire life chain (Minamata Convention, 2013). Finally, the role of governance entails an important part in this research, because the subject of this thesis is global discontinuation ''governance''. Governance can be understood as a way of governing in which different actors participate in a deliberative way (Hoppe, 2011, p. 15). This entails complex forms of public-private interaction (Borrás & Edler, 2014, p. 24).

The global discontinuation governance of a socio-technical regime can be seen as a very complex process. Studying the discontinuation governance of mercury is an interesting subject for a research project. In this thesis, I will address and analyse the most important governance processes of the global discontinuation governance of mercury. In doing so, I will contribute to a better understanding of the phenomenon of global discontinuation governance.

## 1.2 State of research

In this section I will explain the scientific relevance of studying the global discontinuation governance by discussing what relevant research is already done and what is missing in these studies.

Concerning *discontinuation governance*, existing research does focus on system innovation and regime change, but the role of deliberate governance is not specifically addressed in those studies (Kemp, Schot, & Hoogma, 1998) (Geels F. W., 2002) (Geels & Schot, 2007) (Loorbach, 2010). Verbong & Loorbach (2012) do address the role of governance in (energy) transition management in their book ''Governing the Energy Transition''. However, their focus is on analysing the complexity of energy transition processes and the difficulties in shifting to sustainable pathways but they do not specifically focus on the deliberate governance of discontinuation (Verbong & Loorbach, 2012). Moreover, other scholars give some attention to governance of discontinuation, although using the concept policy termination instead of discontinuation. In these studies policy termination is about a particular type of policy change, i.e. the cutting, reduction, diminution, or even complete removal of existing policies (Bauer, 2009) (Bauer et al., 2012). However, these studies do not focus on the termination of socio-technical systems but focus on the termination policies. Therefore the concept policy termination can be addressed as discontinuation of governance instead of governance of discontinuation. In addition, Borrás & Edler (2014) do address the role of governance in changing socio-technical systems but do not focus on the role of technologies in the governance of change (Borrás & Edler, 2014). Thus, also according to Stegmaier, Kuhlmann & Visser (2014), some studies give attention to the deliberate abandonment of socio-technical systems, most studies focus on the process of innovation and continuation.

Currently a discontinuation governance research consortium, among them my supervisors, is studying the concept of discontinuation governance. This consortium is divided in four research groups and each research group focusses on a particular case. These four cases are summarised below:

- The phase out of the *incandescent light bulb technology* through the EU regulation 244/2009, based on the Eco-Design of Energy-Using Products Directive 2009/12/EC, started in the EU in 2009. In this case, the discontinuation of the incandescent light bulb is governed and coordinated on the European Level. The discontinuation strategy is characterised by a domino effect, where some pioneers made sole attempts, and transnational coordinated efforts followed later (Stegmaier, Kuhlmann, & Visser, 2012, pp.5-7).

- Commitments to phase out nuclear power from its current major role in the energy sectors of several countries worldwide, with others ceasing earlier planned nuclear expansion; discontinuation efforts have been accelerating since the Fukushima Daiichi nuclear disaster, Spring 2011. The scholars from this research group study the exit decisions in different European countries, in particular Germany, and their effects on the energy policies. The discontinuation governance in this case study can be characterised as hard termination of a high risk technology, affecting a large infrastructure system with many international linkages (Johnstone & Stirling, 2016), (Stegmaier, Kuhlmann, & Visser, 2012).

- The synthetic pesticide DDT which was banned for agricultural use world-wide under the Stockholm Convention in 2004. The scholar of this case study, study the pathway towards the ban in different countries, namely the US, France and the United Kingdom. From their empirical findings they argue that the pathway towards a ban is very different in each country. Moreover, they argue that the process of discontinuation was long and contested and rested on social mobilisation and framing of DDT use as a public problem (bron (Levain, et al., 2016), (Stegmaier, Kuhlmann, & Visser, 2012).

- A major trend in automotive drive engineering to replace fossil fuel combustion technology by (battery) electric engine technology, a trend that has been speeding up

since the global economic recession in the late 2000s. The discontinuation strategy in this case can be characterised as soft termination by gradual replacement, triggered among other by trying out new options (Longen, Hoffmann, & Weyer, 2015), (Stegmaier, Kuhlmann, & Visser, 2012).

These discontinuation studies will contribute to a better understanding to the concept *discontinuation governance.* I hope to contribute to these studies by analysing another discontinuation case namely the global attempt by the UN to discontinue the use of mercury in its entire life chain. In these recent discontinuation cases, for example the phase out of the incandescent light bulb or the use of DDT as a pesticide, the discontinuation is about one specific product or a specific product within a product group. The Minamata Convention, on the contrary, will affect the entire live chain of mercury (UNEP, 2014b). Moreover, the case studies of the discontinuation governance research consortium all show different characteristics of discontinuation governance and discontinuation strategies. Therefore it would be interesting to find out what the characteristic concerning discontinuation governance and discontinuation strategies are in the mercury case.

Concerning *global governance*, the research group that analyses the DDT ban also deal with a global governance aspect since the use of DDT is banned in the Stockholm Convention (Levain, et al., 2016). Other studies do address the complexity of a comprehensive global convention. For example, Katharina Kummer (1992) discusses the issues that the Basel Convention (1989) has faced. She argued that the act of global convention making not only entails legal issues but also political and social issues. In this thesis I will not only analyse the issues that the policy makers have faced in the act of global convention making but I will specifically focus on what issues are faced concerning (global) discontinuation governance in the act of global convention making. In addition, many researchers have studied the phenomenon of global governance. Other scholars, especially Thomas Weiss, have dedicated their research to studying the UN and the global governance (Weiss & Daws, 2007) (Weiss, 2009) (Weiss & Thakur, 2010) (Weiss, Forsythe & Coate, 2010) (Gareis & Varwick, 2005) (Smith C. J., 2005) Smith (2006) contributes to the UN literature by addressing the political processes in her book Politics and Process at the United Nations: the global dance. Her main focus is on the role of institutes and actors involved in the UN convention making. She argues that these actors seek to shift decisions based on their own preferences, in a complex routine of processes and practices. By means of interaction in the participatory environment of the UN, these actors participate in global policy-making process (Smith C. B., 2006). Still, besides the research on the DDT ban, the subject of global governance is not addressed from the angle of discontinuation governance. Thus, this research will have a scientific contribution by combining an under studied phenomenon, namely the governance of discontinuation in light of the global governance aspect.

Therefore, I will focus on the less studied governance of discontinuation of a socio-technical regimes, namely the entire live chain of mercury or mercury compounds in different products and processes.

## 1.3 Research questions

As previously stated, the global scope and the discontinuation governance aspect indicate complex governance processes. Therefore it will be interesting to provide an understanding of the global discontinuation governance by conducting this research project. The central question in this proposed research will be:

*How is the discontinuation of mercury governed in a global setting and what does this mean for the concept global discontinuation governance?*

The descriptive character of the research question is chosen in order to contribute to a better empirical understanding of issues in the governance of discontinuation of socio-technical regimes in general, by studying the discontinuation of mercury by the Minamata Convention.

The three-pillared approach on governance of change by Borrás & Edler (2014), which will be explained in the theoretical framework, will provide the analytical structure for this research. Therefore the central question will be answered by means of three sub questions:

1. *What and who drives the deliberate global discontinuation governance of mercury?* This sub question is based on the first pillar by Borrás & Edler (2014), namely opportunity structures and capable agents. This pillar focusses on the drive for governance of change
2. *How is the global discontinuation of mercury governed and by which means?* This sub question is based on the second pillar by Borrás & Edler (2014), namely the instrumentation. This pillar focuses on how and by whom the instrument that will govern change is developed and how and by whom the Minamata Convention that will globally governs discontinuation is developed.
3. *Which claims are made in order to make the global discontinuation governance on mercury acceptable?* This sub question is based on the third pillar by Borrás & Edler (2014). This pillar focuses on the legitimation strategies used in the context of governance of change and, of course, in this case on the legitimation of global discontinuation governance.

In the end, I will connect the answers to these three sub questions in an overarching chapter by addressing the link between the three pillars and specifically the role of governance.

### 1.4 Thesis outline

In this thesis I will first discuss my research methods, which I will use in analysing the global discontinuation governance of mercury. In the third chapter I will provide a structure to conduct my analysis based on several policy theories. Continuing I will analyse the three pillars by Borrás & Edler separately: an analysis of the governance shaping dimension, an analysis of the instrumentation dimension and an analysis of the legitimation dimension. In chapter 7 I will address these three pillars together in an overarching chapter. This chapter will be followed by the conclusion, in which I will address the most important findings in this research and I will try to provide an answer to the central research question. Last, I will discuss what is missing in this explorative research and will therefore give some recommendations for further research.

## 2 Methodology

### 2.1 Research design

In this research I will use an interpretative research design, of which the first step is to study how particular concepts are discussed in the literature. Interpretative researchers want to see how these concepts are used in the field. An interpretative study also underlines that the social world we live in can be interpreted in multiple ways (Schwartz-Shea & Yanow, 2012, p. 18). In this research I studied how relevant governance processes are discussed in the literature and what global discontinuation is about in a specific case study or, in other words, stage setting: the global discontinuation of mercury proposed by the Minamata Convention. This explorative case study design is used to get a better un-

derstanding of the governance processes in global discontinuation governance of socio-technical regimes in general.

This interpretative approach to the case study (or stage setting) emphasizes the importance of the flexibility of the researcher and also deals with potential threats. It acknowledges that the researcher has no control over the case study (or stage setting). Therefore the researcher needs to be open to learning and change, needs to be willing to revise thinking in the light of experience, has a high tolerance for ambiguity and have improvisational skills and an understanding of research design that makes room for a dynamic approach (Schwartz-Shea & Yanow, 2012, p. 74). This means for studying the mercury case, that my actual research approach to study the global discontinuation governance may be adapted later in the research process.

In following this research method I soon learned that my research path could not completely set out in the beginning. Only after my data collection and a brief data analysis I learned what would be an interesting and feasible analysis concerning global discontinuation governance.

## 2.2 Data collection methods

This section will discuss how the data will be collected. As discussed in previous section, this proposed research will be based on an interpretative research method. An interpretative researcher starts his empirical data collection where ''the light is''. This means the researcher starts to collect data from the most obvious places and will expand his data collection from there on (Schwartz-Shea & Yanow, 2012, p. 30) The most obvious starting point to analyse the global mercury phase out is by analysing the Minamata Convention on mercury. This analysis will provide more leads for where to search for relevant documents and what the relevant documents are. In other words, a data-sampling pathway is most likely to be developed during this research project. During the data-sampling pathway it seemed important to analyse the following documents:

- The Minamata Convention on mercury (the mercury instrument
- The 24$^{th}$ and 25$^{th}$ session of the UNEP Governing Council
- Open Ended Working Group Meetings for reviewing the possibilities of the mercury instrument
- Negotiations meetings for the establishment of the Minamata Convention by the INC Bureau
- Treaty handbook on how to establish a global legal document (United Nations, 2012)
- UNEP-documents retrieved from the UN database (http://www.un.org/en/databases/)
- Other publications in papers and literature on this subject.

Depending on the available data and/or striking notions, the focus of the research could slightly change. Relating to that, in my research process I experienced that there was an overload of information available on the mercury case. Therefore it was my challenge to find out what information was relevant for this explorative case study and how I could analyse this information in a structural manner. With trial and error I found a structural way to analyse and express the most important information on mercury case.

Since the goal of this research is to develop an understanding of governance processes in the governance of discontinuation of socio technical regimes in general, this research will use the process of theoretical sampling. The process of data gathering will be based on concepts generated from the analysis. From here on, the analysis will expand and I will look for contradictions or other dimensions in this concept (Corbin & Strauss, 2008).

## 2.3 Data analysis

The collected data will be analysed by means of the computer assisted NCT analysis. NCT stands for: Noticing things, Collecting things and Thinking about things. This systematic way of thinking will be assisted by the programme ATLAS.ti (Friese, 2014, p. 12).

ATLAS.ti is a computer programme that helps researchers to manage, shape and make sense of (unstructured) information. For this master project ATLAS.ti was a helpful instrument to manage the large and complex policy documents that were used as data. In addition, the programme contributes to the reliability of the student researcher since the steps the student researcher takes can be easily retraced by the supervisors (ATLAS.ti, 2015).

The NCT analysis is a way of consequent and systematic thinking. This method distinguishes two phases of analysis, namely the descriptive-level of analysis and the conceptual-level of analysis. The descriptive-level analysis explores the data and to notice interesting things. In this stage a structured list of descriptive codes is developed. The conceptual-level of analysis is to identify patterns and relations between the different codes discovered in the data. The aim of this phase is to integrate all findings and to develop an understanding of the phenomenon studied (Friese, 2014, pp. 17-18).

Although the NCT analysis implies a linear method of data analysis, this proposed research and the data analysis will not be conducted in a linear way. Since I will use an interpretative research design, the propositions that a research is a linear process will be rejected. The pre-assumption in this research project is that all stages of the research project are intertwined (Schwartz-Shea & Yanow, 2012, p. 56). The linear NCT analysis is merely chosen as a method to support systematic thinking.

While following the above data analysis method, I coded the data in a structural manner. Each code I provided with a ''descriptive part'' in which I explained what the data actually entailed and with an ''analysis part'' in which I explained what this data actually did or could mean in terms of global discontinuation governance. In doing so, I was able to link these empirical finding with the relevant theories and I was able to find patterns in the empirical findings that may contribute to a better understanding of the global discontinuation governance.

## 2.4 Validation and limitations of the research

In this section I will briefly discuss the validity of this research. In grounding qualitative research validity receives more attention than reliability. The question of validity is a question of whether the researcher see what he thinks he sees. In other words: what is the ''trustworthiness'' of reported observations, interpretations and generalizations (Flick, 2009, pp. 387-389).

In conducting my analysis, I have made I clear distinction between observation and interpretation. I have provided the data with codes in the program ATLAS.TI. For each code I have added a descriptive part and an analysis part. In the descriptive part I have described what data literally was about. In the analysis part I started to interpret the data and explained what these data actually did or could mean in terms of global discontinuation governance. Thus, the construction of my analysis is based on the construction of my data and the clear line between observation and interpretation makes my research more valid.

Using an interpretative research method, I have to keep in mind that the data I analysed can be interpreted in multiple ways (Schwartz-Shea & Yanow, 2012). This means that my observations can be interpreted differently when analysed from a different perspective. Since I have analysed the data from a policy science perspective, I interpreted the data accordingly. Still, I do think that these interpretations from a policy science angle can be considered valid. In my thesis I provide a clear argumentation

on how certain observations are interpreted. Therefore my observations and interpretations are transparent for the reader, which is an important criteria for validating my research (Flick, 2009)
In addition, I have analysed existing reports on the OEWG and the INC meetings. Therefore I did not have any influence on the content of my data. Since I was not able to steer the Unit of Observation, the construction of my analysis is based on the construction the objective data (data that is not influenced by the researcher.

While conducting this research I will also keep in mind that this research will have some limitations. I will discuss these limitations in this paragraph.

First of all, I have based my findings and analysis of the global discontinuation governance processes on only one specific case study. If I would have compared my empirical findings of the global discontinuation processes in the mercury case with another global discontinuation case, I would have certainty on whether the global discontinuation governance processes that occur in the mercury case are ''typical'' for global discontinuation governance cases. Thus, in this research I can only argue that my findings are characteristic off the global effort to discontinue the use of mercury by an active act of governance. Moreover, this specific case study can deviate from other global discontinuation policy cases. Additional research could reveal whether there differences in other case studies and why these differences occur.

Another potential problem is that the scope of my thesis is very broad. I have analysed many global discontinuation governance processes in the mercury case based on three broad pillars. However, I believe that this broad three pillared approach was the best way forward to explore the global discontinuation governance processes and to contribute to a better understanding of the global discontinuation governance.

Furthermore, the reader should bear in mind that the study is based on empirical findings derived from the reports of the OEWG and the INC meetings. Thus my analysis is based on these reports only. However, the OEWG and INC meetings took place over multiple days and therefore I assume that the actual negotiations do entail more information and possible findings than merely the reports. Further research could reveal whether other interesting observation can be made in analysing the entire negotiation meetings. Since this master thesis should be conducted in a limited time slot, it is more practical to just analyse the reports of the negotiation meetings. In addition, the analysis of the (governance) negotiation meetings will provide limited insight in the pathways and the patterns of all the discontinuation governance shaping streams. The negotiations that explore and develop a global governance approach to tackle the mercury issue have the implication that several governance shaping processes have already took place.

# 3 Theoretical framework

In order to analyse the process of deliberate global discontinuation governance, I will set up a heuristic approach by means of fitting literature on (dis)continuation governance and (global) policy making in this chapter. Since discontinuation governance is a form of governance of change, I will start the analytical approach by introducing the three-pillared approach on governance of change by Borrás and Edler (2014). This three-pillared framework will provide the backbone of my analysis. In addition, these pillars will be used to shed a broad light on the global discontinuation governance processes and therefore using these pillars will help me in contributing to a better understanding of the global discontinu-

ation governance of a socio-technical system. In order to develop a comprehensive analytical approach, I will add relevant theories and concepts to these pillars. In the end, this theoretical framework should result in a structural approach to analyse what global discontinuation policy-making is about.

Borrás and Edler (2014) have developed a three-pillared conceptual framework for the governance of change. The three pillars are 1) the opportunity structures and capable agents pillar, 2) the instrumentation pillar, 3) and the legitimacy and acceptance of change pillar (Borrás & Edler, 2014, p. 23). The first and the second pillars focus on the actual actions of the governance of change, the 'who' and 'how' of governance. The third pillar refers to the popular views and support of the socio-technical system (or lack thereof), and to the process of governing change (Borrás & Edler, 2014, p. 24). Governance of change is the way in which societal and state actors intentionally and deliberatively interact in order to transform social-technical systems. Since discontinuation governance can be addressed as a form of governance of change, this three-pillared approach is, as discussed above, nicely applicable to the thesis subject: global discontinuation governance on mercury. This three pillared approach are used as a clear set of heuristics in analysing the global discontinuation governance of mercury. Because the three pillars are used as a heuristic, and this research aims to explore the processes of the global discontinuation governance of mercury, I will make use of the main implications of the three pillars.

## 3.1 Governance shaping dimension

***What and who drives the deliberate global discontinuation governance of mercury?***
The first pillar by Borrás & Edler (2014) is about opportunity structures and capable agents. It focuses on a lead question, namely, who and what drives the change? Opportunity structures refer to the co-evolution of technology and social institutions, which sequentially or simultaneously generate opportunities for change that agents might take (Borrás & Edler, 2014, p. 26). The capability of the agent depends on the several resources the agent possesses. For instance, such resources can be economical but can also be about expertise, time, influence and credibility (Borrás & Edler, 2014, p. 31). In terms of global discontinuation governance, the capable agent might consider a certain technology or socio-technical system as a problem and therefore urges for change when the right opportunities present themselves.

An example of an opportunity structure that can drive the governance of change is, according to Borrás and Edler (2014), the emergence of a new technology. In the mercury case the emergence of a new technology might be the emergence of an alternative technology of the to be discontinued use, in this case mercury. According to the rational choice perspective, a discontinuation is positively related to knowledge on hazards and to the availability of alternatives. Therefore, it is also worth noticing that the available alternative products need to be affordable in comparison with the product or process that needs to be discontinued. Maguire (2002) challenges this rational choice perspective by emphasizing that knowledge on the hazards of DDT and alternatives on DDT long existed before the ban on DDT (Maguire, 2000). This implies that the availability of alternatives can be considered as opportunity structures for global discontinuation governance.

Although the first pillar by Borrás & Edler (2014) gives a plausible explanation on how certain technologies and socio-technical systems will be considered as a policy problem and therefore need to be discontinued, it does not explain how certain problems concerning technologies and socio-technical system get the attention of capable agents who are negotiating about social problem. Therefore it is helpful to consider how problems are framed into social problems and eventually in policy problems.

Stegmaier, Kuhlman & Visser (2014) argue that before the governance of discontinua-

tion of a socio-technical system can occur, some processes of sense making need to take place (Stegmaier, Kuhlmann, & Visser, 2014). In this process of sense making, individual problems are translated in public problems, which eventually can be translated in policy problems. In other words, a process of making sense together has to take in order for a problem to be translated into a policy problem (Hoppe, 2011). Also Blumer (1971) argues that the recognition of the problem by society is necessary for the social problem to exist (Blumer, 1971, p. 302). However, this does not mean that the society has only one problem perception. It is possible, even likely, that conflicting problem perceptions emerge in society. In this thesis I will keep in mind that the involvement of different actors can result in the existence of competing rationalities. Competing rationalities means that different actors have a different view on the same (social or policy) problem (Lin, 2003, pp. 13-15). Especially in the global setting of the mercury case it is likely that many different actors are involved, each with their own problem perception. Smith (2006) argues that the cast of characters involved in the political processes of the UN is usually large, with each one pursuing interests that can be quite different from those by other participants (Smith C. B., 2006, p. 53).

The sense-making theory is addressed in this theoretical framework in order to recognize the dynamics of a problem before it even gets political attention. This also implies that the involved actors will not have a neutral perspective on the policy issue in the policy debate. Before the issue was put on the policy agenda, the involved actors have already shaped and framed their problem perspective. Borrás & Edler (2014) argue that agents are constantly making sense and interpreting their own experience (Borrás & Edler, 2014, p. 29). Together, and because of the interplay among the participants, problems can be shaped and defined in several arena's (Colebatch, 2009, p. 20).

Although the sense-making theory is important for social problem shaping, in this thesis it is seen as an ongoing process through all the policy-making dimensions because it is also important to give sense to the actual global discontinuation governance.

Although the streams by Kingdon does not focus on a socio-technical discontinuation, the stream model by Kingdon can be used as a heuristic to analyse the governance shaping process. I have also added this perspective, provided by Kingdon (1995), to give a better insight and to provide a clear structure in the processes that have driven the global governance of discontinuation analysis. I have made use of Kingdon's (1995) concept ''streams'' in order to emphasise the processual and interactive character of the governance processes that I will analyse. Kingdon (1995), identifies three independent streams, which will lead to policy in case they come together at the same time in a policy window. Whether this policy window will open up for these stream is time and coincidence related and can depend on a political event. Moreover, the role of the policy entrepreneur/capable agents is crucial since he/they has/have to make use of the open opportunity window (Bekkers, 2007, pp. 148-149).

- The first stream is the *problem* stream. In this stream the notion is made that only those problems which are framed by participants and have won the competition for attention reach the policy agenda (Kingdon, 1995). This stream implies the existence of different actors with competing rationalities, which means that different actors have different perceptions of the policy problem (Lin, 2003, pp. 13-15). In terms of global discontinuation governance this means that technologies or socio-technical systems were not always seen as a problem that needs discontinuation. At some point in the problem stream a certain technology or socio-technical system is framed towards being a problem. During this stream the problem perception is framed and shaped by different involved actors, and is eventually translated as a policy problem that needs to be discontinued.

- The second stream is the *policy* stream. This stream recognizes the tension between dynamic problem attention and slow policy development. In this stream policy ideas are negotiated but policy ideas may exist for a long time before policy is developed. Some policy ideas may never be translated into policy. This stream implies that radical change is not likely because it could lead to strong objections by the public (Kingdon, 1995). In terms of global discontinuation governance this means that policy ideas to discontinue a certain technology or socio-technical system long exist before global policy is formulated. This could mean that the policy problem is already addressed in fragmented domestic, regional and global policies. If some parts of the policy problems that urges for discontinuation are already addressed, the complete (global) discontinuation will likely be considered less radical.
- The third stream is the *politics stream*. This stream identifies two components for policy entrepreneurs to take action, namely they need to have a motive and an opportunity to take action (Kingdon, 1995). This stream is comparable to the first pillar by Borrás & Edler (2014) where capable agents make use of opportunities in order to take action. For global discontinuation governance this means that either a policy entrepreneur or an advocacy coalition has set, in this case the mercury issue, on the policy agenda by making use of several opportunity structures and of the opportunity window.

In figure 1, the stream model by Kingdon (1995) is represented. The figure shows that these streams do not develop in a linear fashion. Sometimes these streams do interact but not always at the same time. When these three streams do meet each other, a policy window opens. If a policy entrepreneur makes use of this opportunity window, actual policy will be developed. This policy window, the grey oval, is also shown in the figure.

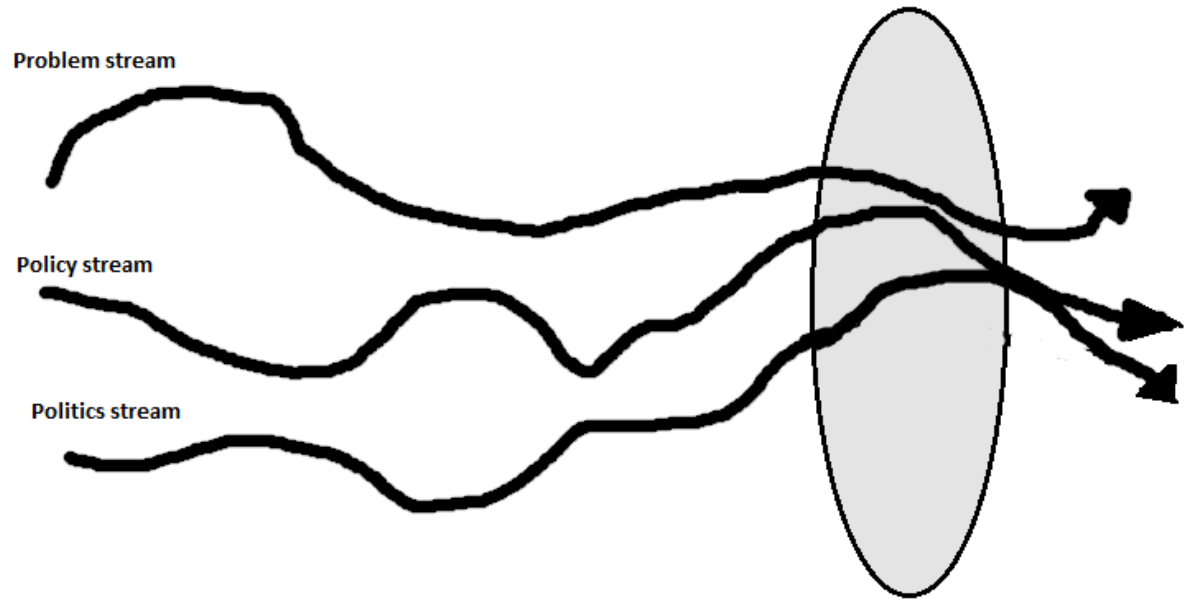


**Figure 1. Stream model by Kingdon (1995)**

The scholars from the discontinuation governance research consortium have developed a heuristic of multidimensional streams that are important in analysing and understanding socio-technical systems and their governance dynamics. These streams are addressed in the style of Kingdon (1995) and include also the problem-, policy- and politics stream, but the focus of these streams is not limited to the focus on agenda-setting. In addition, these scholars developed these additional streams to give a better understanding of the dynamics of the discontinuation governance of a socio-technical system (Stegmaier, et al., 2016, pp. 10-17):

- The *socio-technical* stream acknowledged that socio-technical regimes are subject to change, mostly incremental, sometimes disruptive or radical (Stegmaier, et al., 2016, p. 12). This means that in analysing a discontinuation governance case, one should not only focus on the change that resulted from a deliberate act of governance but that the researcher should also acknowledge that the socio-technical regimes are also subject by change without governance intervention.
- The *socio-economic* stream refers to everything that has to do with the market and business side of discontinuation governance of socio-technical systems (Stegmaier, et al., 2016, p. 12). This means that the researcher should also acknowledge that the role of markets and businesses are important in the discontinuation process.
- The *historical-cultural* stream is about putting discontinuation governance in a longer-term perspective and to situate it within the broader socio-cultural order (Stegmaier, et al., 2016, p. 12). This means that the historical-cultural context plays an important role in framing the to be discontinued issue.
- The *meta-governance* stream refers to the modes of governance. This means to study the overall conditions under which the governance of discontinuation becomes possible (Stegmaier, et al., 2016, p. 13).

This heuristic, derived from the discontinuation governance research project, will be used in this thesis to add a multi-dimensional perspective in analysing the governance shaping processes. However, in this thesis I mainly focus on the governance processes used in the negotiation meetings (the INC and the OEWG meetings). Therefore, I will only briefly address these streams, since I do not have broad insights in the dynamics of the mercury-using sociotechnical system, in the policies of markets concerning the use of mercury and in the historical context. In figure 2, the discontinuation governance stream model is represented. Again, this figure shows that these streams do not develop in a linear fashion. Sometimes these streams do interact but not always at the same time. When these streams do meet each other, a policy window opens. In this policy window actors share a motivation to deliberately undertake discontinuation governance. This policy window, the grey oval, is also shown in the figure.

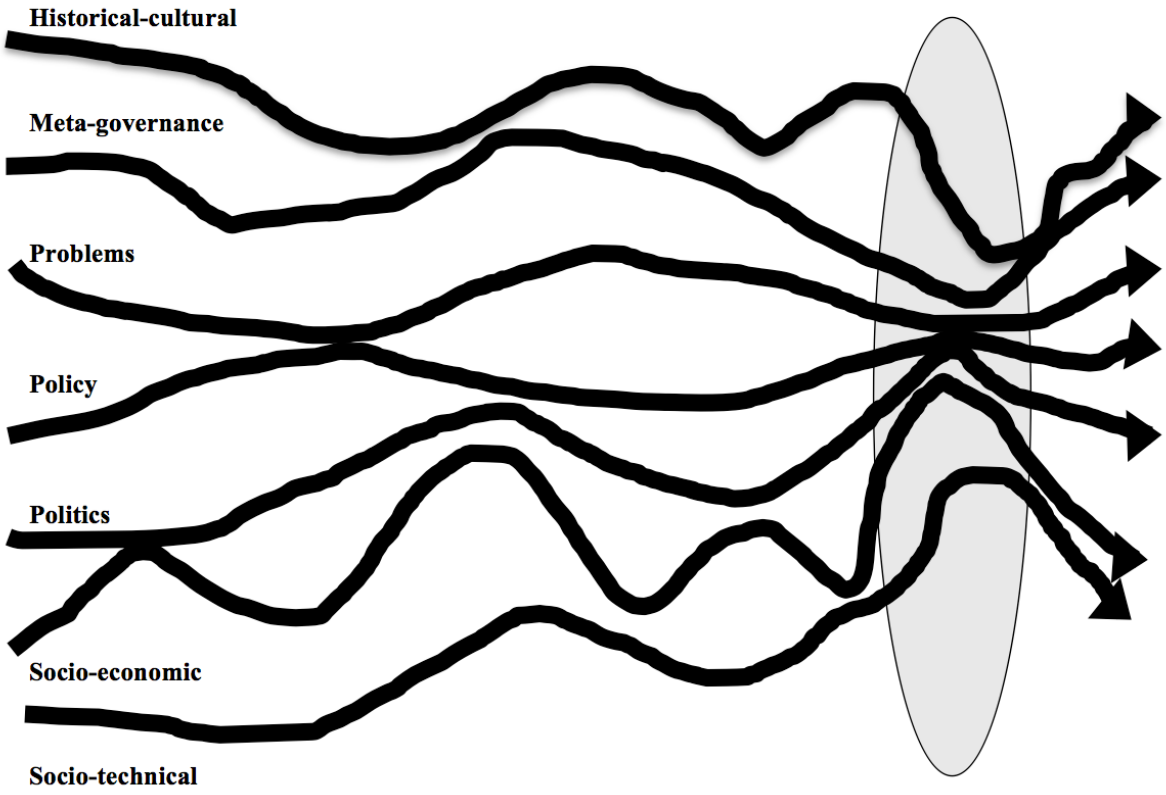


**Figure 2. The ''discontinuation governance stream'' heuristic with accompanying dimension (Stegmaier, et al., 2016, p.15).**

In short, in this thesis I will identify and analyse the different processes in the governance shaping dimension as expressed above. Questions like ''what are the capabilities of the policy entrepreneur who set the mercury issue on the global policy agenda?'' and ''which opportunity structures are used by these capable agents?'' will be answered. Furthermore, I will identify the discontinuation governance stream in the mercury case. Additionally, the most important developments in the public debate about the collective problem perception will be identified and analysed. Although the governance shaping dimension will be structured by these theoretical processes, this does not mean that other important governance shaping processes will be ignored. So I hope to find empirical findings that contribute to these theories in terms of global discontinuation governance.

## 3.2 Instrumentation dimension

***How is the global discontinuation of mercury governed and by which means?*** Before turning to the instrumentation theories, I clarify what ''convention'' means in the UN perspective since I will analyse the development of the Minamata Convention. The term convention can be explained by a generic term and a specific term. Convention as a generic term means: Art.38 (1) (a) of the Statute of the International Court of Justice refers to "international conventions, whether general or particular" as a source of law. Convention as a specific term is generally used for formal multilateral treaties with a broad number of parties. Conventions are normally open for participation by the international community as a whole, or by a large number of states (United Nations, 2016).

In addition, it is important to recognize that instrumentation is not only about how to achieve the set goals but that policy is also about how policy is structured. The instrument can also be shaped by nature of organizational forms (Colebatch, 2009, p. 57). In addition, the UN has participatory nature (Smith C. B., 2006). This means that the global UN convention, the Minamata Convention on mercury, is shaped by multiple state- and non-state actors.

The second pillar of the conceptual framework of governance of change is instrumentation. This pillar focuses on how the change, and in this case the discontinuation of mercury, is governed. It does not merely focus on governmental agents who set up a governance instrument but also includes the importance of the social-agent who can trigger social action (Borrás & Edler, 2014, p. 31). So in other words, instrumentation is a two-fold concept: it is both about policy instruments and social agent instruments. The instrumentation of these instruments is not only formed by governmental organization but is shaped by complex forms of public-private interactions. For instance, the social agents instruments with a great status can also influence social behaviour (Borrás & Edler, 2014, p. 31). Smith (2006) has analysed how diverse actors interact in the global, United Nations, setting. She argues that aside from governmental actors with decision power, non-state actors become more and more important for the political UN processes. There is a need to include these actors in the political process but these actors operate from a position of disadvantage due to their lack of decision making power. Nonetheless, they make contributions to UN activities since they can influence the content and the direction of UN debates (Smith C. B., 2006, p. 119). I have added this UN perspective on in order to understand these complex public-private interaction in the context of global discontinuation governance.

The most important questions concerning policy instrumentation are who is designing, shaping and using the instruments; how the instruments are shaped in the first place and by whom, and how those instruments are put in practice and implemented (Borrás & Edler, 2014, p. 34).

The instrumentation pillar can be addressed as the dimension in which policy is developed, or in other words, the dimension in which policy making processes are conducted. Using the policy theory by Colebatch (2009) I can add a better understanding to the concept of policy and what policy making is really about. Policy is not merely a descriptive term but can be seen as a concept in use (Colebatch, 2009, p. 21). In other words, policy is used in order to shape action by involved actors, not only the government party.

In order to conduct a structural analysis of the policy making/instrumentation processes address this dimension by means of the policy cycle theory. The policy making process can be addressed as a cycle with separate successive stages. The first stage is about determining goals. In other words the objectives are determined which the involved actors wish to achieve. The second stage is about choosing course of action, which is about how involved actors want to achieve their objectives. This stage is followed by implementing the courses of action. Implementation can also be addressed as a concept of use. Implementation can take a couple of years and is therefore not just one moment in time. The fourth stage is about evaluating the results. Here the actual outcome of the policy is measured and evaluation will determine whether the set objectives are achieved. If not, the policy will be modified. This policy modification is the fifth stage of the policy process and completes the policy cycle (Colebatch, 2009, pp. 47-48). In the figure below this policy cycle by Colebatch (2009) is represented.

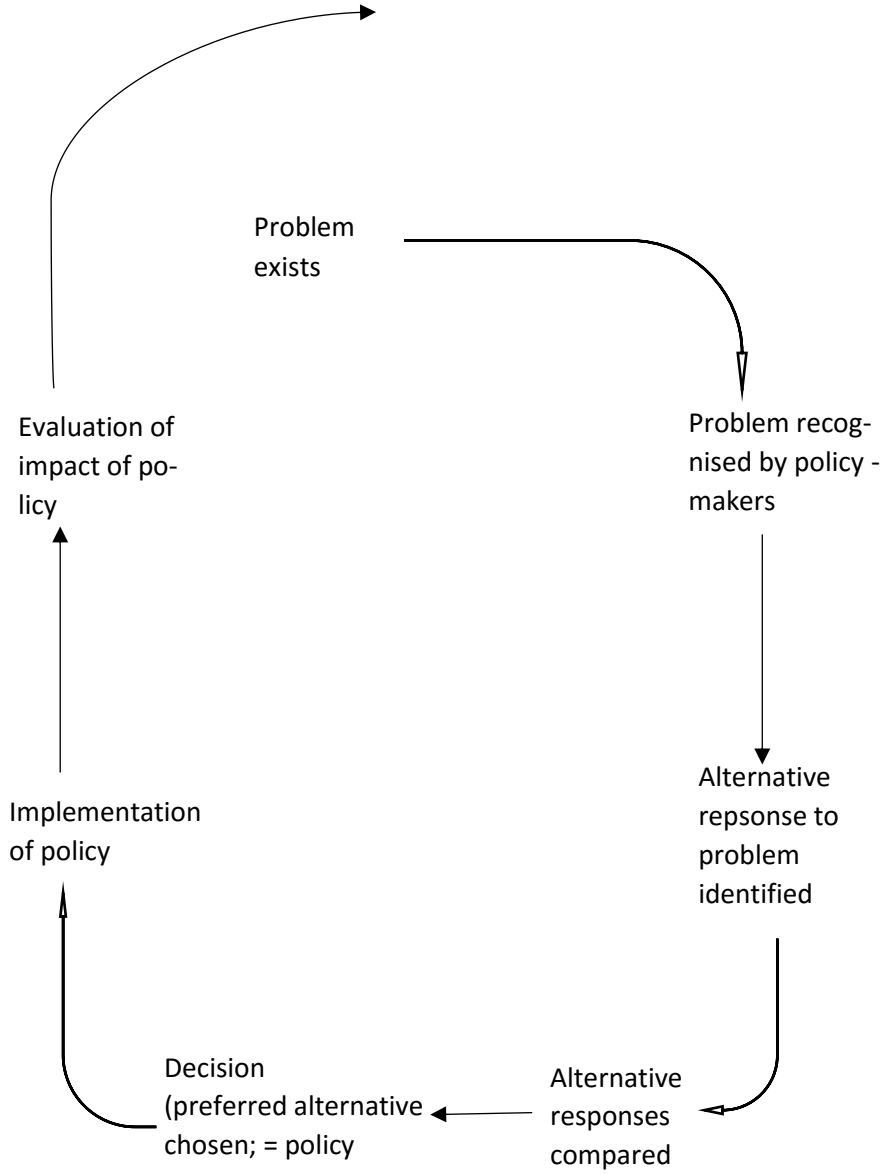


**Figure 3. Policy cycle (Colebatch, 2009, pp. 47-48)**

Colebatch (2009) also adds to the policy cycle that policy making is also about decision making, negotiation and making sense of the policy issue together (collective puzzling) (Colebatch, 2009). These additions can be addressed as policy accounts. Although these policy accounts focus on policy accounts in national policies, I assume that these accounts also apply to the UN level. Colebatch distinguishes three separate but possibly interrelated policy accounts. The first account is the dominant authoritative choice account which is characterized by processes of choice by authorized decision-makers (the government, who select courses of action which will maximize the values they hold, and transmit these to subordinate officials to implement (Colebatch, 2009, p. 24). This account can be seen as the vertical top-down approach of policy making. The second account is structured interaction account. This account recognizes that policy making is likely to involve participants in different organizations and is less about the line of hierarchical authority. The work of policy participants is concerned with identifying

other players and negotiating with them as it is concerned with selecting and pursuing goals. In other words, policy-making is about relationships and linkage (Colebatch, 2009, p. 26). Because this account is less about hierarchical structures it can be seen as a horizontal approach of policy making. The third account is social construction which sees policy making as collective puzzling. Here policy makers search for shared understanding and values about the problem and appropriate action by using policy as a discourse. This account recognizes the importance of mobilizing expertise in the policy-making process (Colebatch, 2009, pp. 29-35).

Still, the policy cycle can be seen as an oversimplified and unrealistic world-view. Fischer, Miller & Sydney (2007) have discussed the critique on the policy cycle in their work. The primary critique is on the analytical differentiation of the policy process into separate and discrete stages and sequences. Clear cut separation between policy formation and implementation is hardly reflecting real-world policy-making (Fischer, Miller , & Sidney, 2007, pp. 55-56). This means that the ''stages'' of the policy cycle are not that separate in the real world policy-making. Therefore I will address the ''stages'' of the policy cycle as streams. In my analysis I will discuss why the policy making ''stages'' should be addressed as ''streams'' instead of stages.

Although I will analyse how the Minamata Convention on mercury is developed, this does not mean that the involved actor immediately agreed that the mercury issue should be discontinued by means of a (legally binding) Convention. A global convention is not the only measure the policymakers can use in order to discontinue the global use of mercury. Eckley Selin and Selin (2006) distinguish three options for global governance namely,

- Establishing a new legally binding global convention
- Global regulation under an existing convention (in this the regulation of mercury under an existing convention, for example the Basel or Stockholm Convention)
- Global action based on voluntary partnerships (Selin & Selin, 2006).

This means that the policy makers have different strategic choices for global governance. In the analysis I will look for an argumentation on why they choose for the global convention option. This is important to clarify the strategies and approaches that are used to discontinue the use of mercury.

Besides these global governance strategies, the policy maker can choose between two regulatory discontinuation strategies. The first is a negative list approach, which means that the to be discontinued use is not allowed unless listed in the annexes of the convention. The second is a positive list approach, which means that the governed issue is allowed unless listed in the annexes (Söderholm, 2013, p. 288). I will analyse what regulatory discontinuation strategies is used in the Minamata Convention on mercury and what processes and discourses took place that have led to decision to use one of these strategy. Besides this ''hard'' instrument choices, interactions between important actors could drive behaviour modification (Borrás & Edler, 2014). In addition, Smith (2006) argues that the political processes in the UN are about the interaction between the participating actors. She describes these processes, a metaphor, as the global dance. ''*The UN brings diverse actors together in a complex routine of procedures and practices where each seeks to shift the music so that the process is moving toward the outcomes it prefers. Some actors strut, some inspire and a few remain on the side lines, but the hope is that the number of participants willing to dance to the same music will increase over time, to the end that effective solutions to pressing global problems can be found*'' (Smith C. B., 2006, p. 293). In other words, the political process of the UN have a participatory nature in which involved actors interact, and by means of this interaction they try to modify the perspective on the policy issue which in the

end may lead to consensus on the policy issue. This theory also recognises that the involved actors are not equally interacting, but that these actors play different roles in the interaction process. This dance metaphor is also used in other policy studies. For example, Kuhlmann (2007) addresses this dance metaphor by arguing that practice, policy and theory can be seen as ''*dancing partners*''. In this ''*dance*'' the three dancers observe each other, and react on the partners' movements: They copy, comment, complement, counter-act, neglect, and thereby learn. In their interactive learning, they constantly create and change configurations (Kuhlmann, 2007). This global dance theory will be used as a heuristic to get a better insight in the dynamics of the policy processes of the UN.

Therefore, I will not only analyse which regulatory strategies are used to globally discontinue the use of mercury but I will also analyse the ''soft'' behaviour modification processes by means of the interaction between involved actors. These processes, argumentation and interactions are interesting to determine how the global discontinuation on mercury is governed.

Besides looking into the main regulatory strategies, I will address the different options of discontinuation strategies that are used in the global discontinuation governance of mercury. Stegmaier & Kuhlmann (2016) present a ''ladder'' of discontinuation. The discontinuation strategies vary from a ban, a phase out, reduction, restriction, and control. In this ''ladder'' different discontinuation strategies are represented with the most ''soft'' discontinuation strategy on the bottom and the most ''hard'' form of discontinuation strategy on the top. This discontinuation ''ladder'' is represented in figure 4.

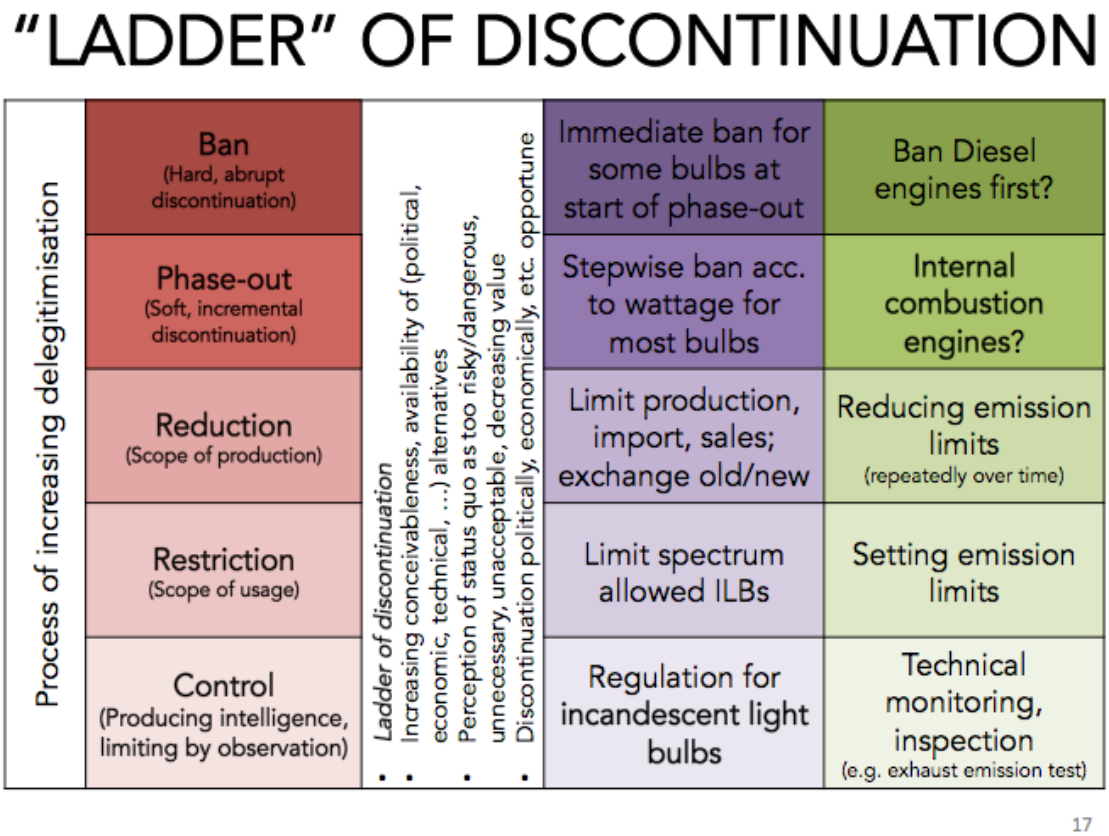


**Figure 4. The ''ladder'' of discontinuation (Stegmaier & Kuhlmann, 2016)**

Since discontinuation is a form of change, and transition periods are considered important when governing change, transition periods should also be considered when dealing with discontinuation governance. Geels & Schot (2007) define transitions as the change from one socio-technical regime to another (Geels & Schot, 2007, p. 399). In the analysis I will see how the transition periods are discussed

in the negotiation discourse of the development of the Minamata Convention and I will analyse what transition period are used in the Minamata Convention.

Stegmaier, Kuhlman & Visser (2014) contribute to the three pillars by Borrás & Edler (2014) by arguing that the aftercare is an important consideration when dealing with discontinuation governance. Aftercare is about the aspects that cannot fully be discontinued or dismantled (Stegmaier, Kuhlmann, & Visser, 2014). This thesis will analyse the importance of aftercare and which types of aftercare are considered in the global discontinuation governance of mercury. In order to analyse how the global discontinuation of the use of mercury is governed, the aftercare should be taken into account.

Based on this theoretical structure, the analysis of the instrumentation dimension will be concerned with analysing the policy instruments and the social agent instruments. In addition, I will address the discourse of the policy debate in my analysis. Moreover I will determine both the general regulatory strategies and the different discontinuation strategies used in the global discontinuation of mercury. Last, I will address the difficulties the policy makers have faced in setting up a global instrument to discontinue the use of mercury.

## 3.3 Legitimation dimension

***Which claims are made in order to make the global discontinuation governance on mercury acceptable?***

The third pillar of the conceptual framework of governance of change is about legitimacy. The legitimacy pillar is concerns the question why socio-technical systems are (or are not) accepted, and why the process of governing change is (or is not) accepted (Borrás & Edler, 2014, p. 34). This means, in the light of the mercury case, that the global discontinuation governance is likely to be more accepted when the incumbent socio-technical regime that uses mercury is not accepted. In addition, legitimacy can be considered as an important aspect in the governance of change, or in this case the discontinuation governance. Change implies unfamiliarity with the new situation and uncertainty about challenges that might occur. In addition, the use of the word 'governance'' in ''governance of change'' or ''discontinuation governance" implies the importance of interaction and coordination between public and private actors. Therefore the aspect of popular support, and how this is legitimised by the policy makers, can be considered very important. Sense-making can play an important role in this pillar. If the global discontinuation of mercury makes sense to the affected and involved actors, the actions by the policy maker are likely to be legitimate (Colebatch, 2009, p. 58). In other words: sense making is an important way for policy makers to legitimise the global discontinuation of mercury.

Still, in this research I will not determine whether the global discontinuation governance on mercury is found legitimate by the involved actors. I will focus on the legitimation claims made by the governance makers in order to legitimise the global discontinuation on mercury. Therefore I will address this pillar as ''the legitimation dimension'' instead of the ''legitimacy dimension'' This approach is chosen because the focus on legitimation will provide a far better understanding of how the global discontinuation on mercury is ''governed''. This approach will shed light on the actions, claims and discourse made by the policy makers to legitimise the global discontinuation on mercury.

**Levels of legitimation**

Thus, I will analyse which legitimation claims are made by the governance makers in order to legitimise the global discontinuation governance of mercury and to de-legitimise the incumbent mercury using socio-technical system. According to Berger & Luckmann (1966) legitimation can be conceptualized as follows: ''legitimation provides the explanations and justifications of the salient element of the institutional tradition. It explains the institution order by ascribing cognitive validity to its objectivated meaning and justifies the institutional order by giving a normative dignity to its practical imperatives (Berger & Luckmann, 1966, p. 11).'' So, legitimation is not only about ethical norms which can legitimise a certain government act, but it is also about the knowledge on the policy subject (Berger & Luckmann, 1966). In the mercury case this means that knowledge about discontinuing the use of mercury and experiences with global governance can help legitimise the global discontinuation governance of mercury. Therefore, choices of discontinuing the use of mercury can be legitimised by the policy makers by means of ethical norms and knowledge claims.

Berger & Luckmann (1966) distinguish a framework of four levels of legitimation: incipient legitimation, theoretical propositions in rudimentary form, explicit theories and symbolic universes.

The first level of legitimation is incipient legitimation. Incipient legitimation is about legitimation claims that are based on self-evident knowledge in which no theory or scientific finding are used to ground the legitimation. It is about ''how things are done''.

Theoretical propositions in rudimentary form is about legitimation claims based on general knowledge, proverbs and moral grounds from which an individual will behave. So it is about claims on how things should be or how actors should behave according to individual standards.

Explicit theories are about legitimation claims that are derived from expert knowledge and experience from expert actors. These legitimation claims are based on knowledge, both from scientific ground and from the experts who ought to have the knowledge about their expertise.

Symbolic universes is about legitimation claims based on theories rather than what is experienced in practice. These legitimation claims can, for example, be based on religious grounds. These claims can also be based on what is seen as an important value for society.

In the analysis I will use these four levels of legitimation as an inspiration to structure the legitimation claims in the mercury case since in the mercury case the most important legitimation claims in the mercury case are either about normative or value-related claims or about knowledge and experts based claims. Thus in the analysis, I will distinguish the legitimation claims accordingly. Since my thesis subject is the global discontinuation governance of mercury, I will make a distinction in my analysis between how the discontinuation governance is legitimised and how the global governance is legitimised.

**Mobilizing input and throughput legitimacy**

In order to determine whether the global discontinuation of mercury is legitimised, I should also analyse whether input legitimacy and throughput legitimacy is legitimised. In doing so, I will focus on whether input and throughput legitimacy is mobilised instead of normatively determining whether the mercury case is legitimate in terms of input legitimacy or throughput legitimacy. In other words, the focus of my analysis is on legitimation and I will address the concepts of input and throughput legitimacy as the result of legitimation practices. The reason why my focus is on legitimation instead of the normative concept of legitimacy is, as explained, that the focus on legitimation will provide a far better understanding of how the global discontinuation on mercury is ''governed''. This approach will shed

light on the actions, claims and discourse made by the policy makers to legitimise the global discontinuation on mercury.

Input legitimacy can be considered important in (global discontinuation cases). Borrás & Edler (2014) argue that the governance of change relies strongly on input legitimacy. This is due to the high level of uncertainty and the long term nature effects of change in the system. It is important to mobilise throughput legitimacy because the decisions that are made will affect a lot of actors. Throughput legitimacy can be considered important because it concerns the norms of decision making. If throughput legitimacy is not mobilised state parties may not sign the treaty if they do not accept the way in which the decisions are made.

In other legitimacy theories there is often made a distinction between input legitimacy and output legitimacy: systems are legitimate if they enjoy popular support both in terms of the processes by which the decisions were taken (input legitimacy) and in terms of the support of the system's outcomes (outcome legitimacy) (Easton, 1965). Since output legitimacy is about the outcomes of the system I will not analyse this legitimacy aspect. After all, the Minamata Convention is not entered into force yet. Concerning input legitimacy, I will analyse whether there are legitimation claims made in terms of the processes by which the decisions are taken rather than determining whether these processes are considered legitimate. I intend to link legitimacy to legitimation by addressing legitimacy as a quality found empirically in certain arguments while addressing legitimation as a concept that denotes the process of how legitimacy is achieved and granted. These theories will be used as heuristics in order to analyse whether the inclusiveness of input legitimacy is mobilised, and therefore whether the inclusiveness is used by the governance makers to legitimise the governance process of establishing a global legally binding instrument to discontinue the use of mercury.

Input legitimacy refers to the popular support that a particular social community grants a political system (a specific set of political institutions) to channel collective problem-solving for that community. Decisions are socially accepted and democratically legitimate in so far as the process to reach them has been inclusive, open to liberate considerations and directly engaging those affected by the decisions (Borrás & Edler, 2014, p. 36). In order to analyse the legitimation claims concerning input legitimacy in the global discontinuation governance of mercury, I will analyse to what extend the inclusiveness, openness and deliberation is mobilised.

So concerning the input legitimacy, there is a need to involve stakeholders, at least consider their interest, in the global discontinuation of the use of mercury. Consequently, it is important to analyse the extend of inclusiveness of this governance process. There should be considered who the stakeholders are and what their role is in the global discontinuation on the use of mercury.
Since input legitimacy is based on the inclusiveness of actors, analysing the participation of involved actors might help to determine the mobilisation of inclusiveness in the discontinuation governance on mercury. In doing so, it is helpful to get some understanding on different forms of participation.

According to Stirling (2008) an expert-based approach is an exclusive way of policy making and policy analysis. It excludes people from participation in the policy making process or policy analysis and leaves this task exclusive to the people with expertise. Ideas and other decisions take place at the top, the expert and decision maker, and are implemented and communicated to the bottom, the citizens or regulatees (Stirling, 2008, p. 267). The expert is seen as the agent who has the knowledge about the policy problem and therefore the power over the policy problem (Kothari, 2005).

A participatory approach is an inclusive way of policy making and policy analysis. This approach includes stakeholders, even though they have no expertise, to participate in the policy making process and in the policy analysis. Ideas and other contributions to the policy come from the bottom (the participants) and are communicated to the top (the decision makers). This phenomenon is also known as

the bottom up approach (Stirling, 2008, p. 268).

In contrary to input legitimacy, which is about the openness, inclusiveness and deliberateness of processes in which decisions are taken, throughput legitimacy is about how decisions are made and whether they comply with the norms of decision making (Bekkers, 2007, p. 372) Three components of 'throughput legitimacy' can be distinguished: legality, transparency and quality of the decision-making process (Risse & Kleine, 2007). Again, because the thesis subject is about providing a better understanding concerning global discontinuation governance, I will not determine whether there the throughput processes can be considered legitimate but I will rather analyse whether the throughput legitimacy is mobilised by means of the three components of throughput legitimacy.

## 3.4 Linking the pillars and the role of governance

As discussed in this chapter, in my analysis I will first analyse and discuss the three pillar separately. In an overarching chapter I will address these three pillars together and discuss how they are linked and how they interact. Furthermore, I already discussed the importance of the role of governance in this thesis subject: the global discontinuation ''governance'' of mercury. Therefore I will specifically address the role of governance in this overarching chapter. How the governance analysis will be structured is discussed below:

**Role of governance**

It is easy to assume that the government decides which social problems need to be tackled and that the government is responsible for taking policy decisions. However, this point of view is too narrow to describe the direction of policy decisions. Since the subject of this thesis is the deliberative discontinuation governance of mercury, the role of governance will be considered as important. Both the governance of change concept by Borrás & Edler (2014) and the global discontinuation governance have the notion of governance. This governance perspective suggests that policy is established by means of complex forms of public-private interactions. In other words policy issues are socially constructed by both public- and private participants (Colebatch, 2009, p. 33). Also global governance is about complex interaction between public- and private actors (Smith C. B., 2006). Therefore I will address the three policy angles presented by Colebatch (2009), discussed earlier in this chapter, instead of only the top-down approach.

For this master thesis this heuristic means that the focus will not only be on the governmental decisions, made by the United Nations. It will also recognize that interaction, negotiation, problem shaping and including expertise can result in important policy processes. A great deal of policy activity is concerned with creating and maintaining order among the diversity of participants in the policy process. So it is not only about deciding but also about negotiating (Colebatch, 2009, p. 29). On top of that it is important to mobilize expertise in the policy discussion (Colebatch, 2009, p. 33). Expert based information can contribute to a shared understanding of the problem but can also inform the policy maker on the best-way forward to tackle the policy issue. By using these different policy accounts I aim for a comprehensive analysis on the global discontinuation governance of mercury.

# 4 Analysis

In this chapter I will analyse the ways in which the convention unfolds its own reality as a governance phenomenon with a prime interest to find interesting empirical patterns and concepts in the data that may contribute to the existing literature, while looking at the phenomenon through the lenses of some matching 'sensitising concepts' from literature functioning as heuristics. First, I will analyse the most important governance shaping processes of the global discontinuation governance on the use of mercury. Then I will address the most important instrumentation strategies used in the developing the Minamata Convention. Last, I will discuss how the global discontinuation governance on mercury is legitimised in the legitimation dimension

## 4.1 Governance shaping

In analysing the governance shaping dimension, the most important question is: *What and who has driven the deliberate global discontinuation governance of mercury?*

The global governance shaping process is about several governance shaping streams, as discussed in the discontinuation governance stream model (Stegmaier, et al., 2016). However, the Minamata Bay disease is pointed out to be the cause of action by the involved stakeholders in the negotiation meetings, to actually drive global governance act of discontinuation, one event is not sufficient to drive action towards the problem.

### *Symbolic device: the Minamata Bay disease*

I have only analysed the negotiation meetings, and therefore the governance processes, that developed the global instrument that aims to discontinue the use of mercury in its entire life chain. Still the role of the Minamata Disease gives some implications in terms of the *historical-cultural* stream, which is about the governance shaping processes in a longer term perspective (Stegmaier, et al., 2016, p.12). The Minamata disease can be considered as a wake-up call that triggered the several governance shaping processes in Japan. After all, the mercury regulation in Japan was not very strict prior to this event, and was only strengthened after the Minamata disease (NIMD, 2014). Therefore, the recognition to the problem of mercury increased significantly in this country (NIMD, 2014). This is also a great example of a problem becoming a social problem, or in other words, a collective problem. Here, the public began to shape the problem towards a collective problem and collectively recognized the dangers of mercury. Thus, this event led to developments in the *historical-cultural* stream, it shaped the problem in the *problem* stream and has resulted in policy ideas in the *policy* stream and therefore led to interactions between these three streams. However, this does not mean that the Minamata Bay disease led to the same developments in the discontinuation governance streams in other countries. In addition, the shock hypothesis does not apply to the ILB, DDT and the combustion car engine phase out cases. Rather it seems that more diffuse, less abrupt changes in the landscape and the offer of alternative technologies from niches can be associated with boosting discontinuation in these areas, in combination with policies and political initiatives pertinent for changes (Stegmaier, et al., 2016, p.3). More specifically, the scholars of the DDT case have conducted substantial research in the development of all the discontinuation governance streams by comparing the development of streams in three different countries. For example, in the US the discontinuation of the use of DDT was mainly facilitated because the book *Silent Spring* led to a major public alert towards the risks of DDT, while in France the discontinuation of DDT was already put in motion before governance intervention. The markets and businesses related to DDT were already seeking for alternatives in the *socio-economic stream* because

massive use of DDT resulted in insect resistance. Governance intervention in France, which banned the use of DDT, only happened after many research pointed out the risks of DDT (Levain, et al., 2016).

In short, both radical and slow developing research could result in awareness for risks of a certain technology or socio-technical system and can trigger the call for governance intervention to discontinue of that use. Evidently several processes need to occur in order for a global policy entrepreneur to set the issue on the global agenda. The reason why the Minamata Disease is used as a reason for global action is therefore a more symbolic one.

In both the OEWG- and the INC meetings the Minamata Disaster is emphasized as the great example for the dangers of mercury. Sometimes it is mentioned in the beginning at the meeting, and sometimes a short film on Minamata disease is shown (OEWG1, 2007) (OEWG2, 2008) (INC1, 2010) (INC2, 2011). In the second meeting of the INC a sculpture of fish was presented by an artist of one of the representative countries. The fish represented the contaminated fish which are seen as the cause of the Minamata disease. This sculpture became the mascot for the INC, symbolizing the irreversible consequences of mercury contamination (INC3, 2011, p.3). The symbolism of the Minamata disease also becomes clear in the name used for the final instrument: the Minamata Convention (INC2, p.3). So the Minamata disease is used as a symbolic device for several purposes:

- *Problem shaping*: Using the Minamata disease as an example of the risks of mercury can speed the urgency to take (global) governance action towards the use of mercury. With this example it is stated that the use of mercury is very dangerous. Lessons on the risks of mercury can be learned from the Minamata disease.
- *Behaviour modification*: Using the horrific consequences of the Minamata Bay disease to modify the behaviour of the participants. Interaction between important actors could drive behaviour modification (Borrás & Edler, 2014). Smith (2006) argues that the political processes in the UN are also about the interaction between the participating actors. The hope is that consensus on the best way forward will increase over time (Smith C. B., 2006, p. 293).
- *Awareness raising*: In this chapter I will discuss that there is a lack of awareness among the global community. Using the Minamata Disease can help making sense to the public why global discontinuation governance is necessary.
- *Agenda setting*: Using this horrific event as a clear example why globally legally binding action should be undertaken.
- *Agenda keeping*: Although the Minamata Disaster happened a long time ago, its horrific consequences still symbolise the dangers of mercury. Therefore it is used to remind stakeholders why they should discontinue the use of mercury and why they need to keep continue their efforts towards the discontinuation of mercury.

The global dance metaphor by Smith (2006) indicates that social agents are trying to modify each other's behaviour by means of interaction in the global governance process. Since this symbolic device is used by several stakeholders during the negotiation meetings, this process can be addressed as a form in which social agents try to modify each other behaviour by means of the symbolic role of the Minamata Bay disease.

Thus, the discourse on the Minamata Bay disease gives some implications on the *historical-cultural* stream but should mainly be addressed as a symbolic device in the governance shaping process. Whether the Minamata Bay disease has a bigger role in the *historical-cultural* context can be revealed in further research, in which the focus should not be only on the governance processes derived from the negotiation meetings.

So however, in both the OEWG meetings and the INC meetings the main reason given for globally governing the discontinuation of the use of mercury is the Minamata disease that happened in 1956 in Minamata Bay Japan, the governance shaping process is about multiple processes and streams

which will only lead to policy if all these processes meet at a certain moment of time. In other words, when an opportunity window appears and the policy entrepreneur or capable agents make use of this opportunity window.

### *Governance shaping by public awareness raising*

*The problem stream* by Kingdon (1995) implies that only those problems framed by participants and which have won the competition for attention reach the policy agenda. According to Borrás & Edler (2014) new technologies and/or knowledge open new possibilities for social and human interaction and social organisations (Borrás & Edler, 2014, pp. 26-27). This also means that new knowledge makes the public aware of problems and can therefore influence the emergence of a policy problem in the problem stream. The problem stream develops when the awareness of risks grows among the public and the expert actors. Blumer (1971) addresses the importance of identifying the process of the emergence of social problems. Here is acknowledged that not all individual problems will be transformed in to collective social problems. Stegmaier, Kuhlman & Visser (2014) argue that a process of sense making needs to take place in order for individual problems to translate in social problems and eventually in public or policy problems (Stegmaier, Kuhlmann, & Visser, 2014). Borrás & Edler (2014) argue that agents are constantly making sense and interpreting their own experience (Borrás & Edler, 2014, p. 29). Together, and because of the interplay among the participants, problems can be shaped and defined in several arena's (Colebatch, 2009, p. 20).

Blumer (1971) argues that the emergence of a social problem is about the recognition of a problem by society. Although I do not deny that parts of the global society has recognized the dangers of mercury as a social problem, what is remarkable is that seemingly not the whole global community is aware of the dangers of mercury. In this mercury case public awareness making, and therefore problem recognition, is parallel to the implementation process while other policy theories argue that this public recognition takes place even before the input stage. This argument is based on the fact that in the mercury case, in all the Intergovernmental Negotiating Committee (INC) meetings public awareness is considered an important part to establish compliance to the eventual mercury instrument and that awareness is an continuing process since awareness is an important provision in the mercury instrument (INC1, 2010, p. 19-20) (INC2, 2011, p.29) (INC3, 2011, p.23) (INC 4, 2012, p.19-20) (INC 5, 2013, p.30). This also implies that not the whole global community is aware of the dangers of mercury. Therefore I conclude that sense making processes do not only occur in early stages of the policy process but that these processes are important throughout the whole policy processes.

### *The shift towards a global policy problem*

The global aspect of this master thesis makes this process for reaching the global policy agenda probably a bit more complex since not all (domestic policy) issues reach the global policy agenda. The mercury problem have faced numerous framing processes before the problem was even considered and framed on the global level. Eventually, the mercury issue did reach the global policy agenda. Since this thesis focusses on the global approach to tackle the dangers of mercury, the more relevant question is how the mercury issue has reached the global policy agenda and who set the mercury issue on the global policy agenda.

In the OEWG meetings it is stated by several participants that global action towards the dangers of mercury is required (OEWG1, 2007 p.1) (OEWG1, 2008, p.1). Here, the mercury issue has reached the global policy agenda and is translated into a global policy problem. This implies that the policy problem has shifted from a domestic policy or social problem perceptive towards a global policy perspective.

The role of the policy entrepreneur plays an important role in this shift. In the case of the mercury issue the most important capable agent, or the policy entrepreneur, is the Governing Council

of the United Nations Environmental Programme (UNEP). The Governing Council of UNEP has stated that ''the time had come to cooperate to make real progress in preventing further poisoning of the environment'' (OEWG1, 2007, p.2). Consequently the Governing Council of UNEP decided to establish an ad hoc open-ended working group (OEWG) which would review and assess options for enhanced voluntary measures and new or existing international legal instrument (OEWG1, 2007, p.1) (OEWG2, 2008, p.1). Moreover, the Governing Council of UNEP also established the Intergovernmental Negotiation Committee (INC) with the mandate to develop a comprehensive and suitable approach to tackle the mercury issue (INC1, 2010, p.1) (INC2, 2011, p.1) (INC3, 2011, p.1), (INC4, 2012, p.1) (INC5, 2013, p.1). Thus, the Governing Council of UNEP can be considered as a capable agent as it has the authority to establish new bodies and it can mandate bodies with certain tasks. On top of that, the Governing Council of UNEP can be considered a capable agent because it is an international body which is capable to reach and involve a lot of important actors. In addition, the UN can be seen as a respected institute since many countries are members of the UN and stay a member of the UN across the years (Smith C. B., 2006). The broad representation and participation in the OEWG and the INC meetings also indicate that UNEP is a respected, and therefore capable, policy entrepreneur. Also its experience with the voluntary mercury measures makes the Governing Council of UNEP a capable agent.

Although I do not deny the importance of the role of the Governance Council of UNEP, it is not likely that one actor alone has driven the global discontinuation of the use of mercury. Borrás & Edler (2014) recognise the importance of social agents who are capable to influence (political) behaviour. Other strong actors (networks) have driven the Governing Council of UNEP to undertake comprehensive global action**.** For example, important global organisations like the World Health Organisation (WHO) have conducted extensive research towards the impact of mercury use. The WHO has driven the Governing Council to take further action against the risks of mercury since research by the WHO is taken seriously and can therefore be considered as a drive to take policy action. In addition, Smith (2006) argues that participants play different roles in the political process of the UN. Some countries can inspire change while other participate from the side line (Smith C. B., 2006, p. 293). In both OEWG and the INC meetings it became clear that the actors with experience with discontinuing the use of mercury or those who have stricter mercury regulation contribute more in the negotiation processes than countries without experience.

Here, it is evidently that the *problem* stream and the *politics stream* interact, since the policy entrepreneur and other capable agents play an important role in shaping the mercury issue into a global policy issue. The reason of this shift can also be explained by several governance shaping processes that have resulted from the interplay among the participants, which can be considered as social agents that have driven change:

- *Framing by means of knowledge:* The range of policy problem is continuous shaping and changing because of new information and new technologies. More information about the risks of mercury have led to a shift in the range of the policy problem (OEWG 1, 2008, p.13). For example, more knowledge about the risks of mercury have mobilized action towards the global policy problem. This implies that the role of knowledge is very important in the *problem* stream. The development of new technologies, or in this case alternatives, can be addressed as a development in the *policy stream.* These new alternatives will lead to new policy ideas, which are negotiated in the policy stream.
- *Framing the policy problem as a cross-border issue:* Several actors have framed the mercury issue as a cross-border problem because of research about the mercury issue it is determined that mercury pollution has cross-border effects. In the INC meetings involved actors recognize that mercury pollution entails a long-range environmental transport of mercury (INC1, 2010, p.3). Therefore,

not only the polluting countries will suffer the risks of mercury pollution but also other (non-polluting) countries to where the mercury pollution is transported. So if country A has banned the use of mercury completely, this does not mean it will not suffer the risks of mercury because country B uses processes containing mercury pollution which could be transported to country A. Therefore involved actors have framed the mercury problem as a cross-border problem which can only successfully be tackled by coordinated global action. Here again, knowledge has played an important role in framing the policy problem in the *problem stream.*

- *Framing the policy problem as a collective necessity:* Contributing to the previous framing process, not all countries are capable to discontinue the use of mercury by themselves. Since the use of mercury by the not capable country A can affect other countries, a collective global approach to tackle the risks of mercury can therefore be considered important (OEWG1, 2007, pp. 6-7) (OEWG1, 2007, p. 12) (OEWG2, 2008, p. 4) (INC1, 2010, p. 6) (INC3, 2011, p. 6). This framing process can be addressed as a result of the interplay between in actors. Using the global dance metaphor by Smith (2006): actors that are ''dancing'', and therefore interacting, with developing countries came to realise that developing countries need help in discontinuing the use of mercury.
- *Framing the policy problem into a priority problem:* Another reason why the mercury issue is framed into a global policy issue is because the mercury issue is considered as a priority issue since the use of mercury brings risks towards human health and the environment. The protection of these topics are often subject of global policies (OEWG2, 2008, p. 6) (INC1, 2010, p. 5).
- *Framing previous efforts as ineffective:* Last, involved actors came to realise that earlier fragmented domestic policies and fragmented global policies were not effective enough to tackle the mercury issue. In the mercury case, there are already several fragmented, both domestic and global, policies conducted in order to tackle the mercury issue, as became clear in the OEWG and the INC meetings. The attempt to tackle parts of the mercury issue by other multilateral agreements and by the United Nations Environmental Programme implies that the policy idea to tackle the mercury issue on a global scale existed before the establishment of the globally legally binding policy (Minamata Convention, 2010). The previous global voluntary partnerships where not very effective in tackling the mercury issue (OEWG1, 2007, p.16). In other words, even before the development of the Minamata Convention, both on domestic scale and by the international community process is made in responding to global challenges posed by the use of mercury (INC1, 2010, p.3). These fragmented policies will likely prevent radical change and therefore strong objections by the public. Because of the previous policies the public is likely to be eased into the eventual global discontinuation of mercury. On the other hand, (developing) countries with (hardly) no previous mercury policy and no attendance in previous global efforts to tackle the mercury issue are likely going to struggle with the discontinuation of mercury. The manner in which this issue is dealt with will be discussed in the instrumentation dimension chapter. In sum, involved stakeholders argued that only a global approach can tackle the mercury issue effectively (INC, 2010, p.3). In the OEWG meetings it is recognised that further policy is needed in order to tackle the mercury issue effectively (OEWG1, 2007, p.4). Therefore, the mercury problem has shifted towards a global policy problem. Here, the *problem stream* and the *policy stream* interact since the domestic and fragmented policy ideas are used to frame the mercury problem into a global policy problem.

### *Competing rationalities*

The *problem stream* also implies the existence of different actors with competing rationalities. Actors have different perceptions of the policy problem. Although the various participants acknowledge the mercury issue as a global policy problem (OEWG1, 2007) (OEWG2, 2008, p. 2), this does not mean that all participants have the same problem perception. For example, a country that highly depends on the

mercury industry has to weight the benefits from mercury use against the risks of mercury use while countries which have already banned the use of mercury weight out the cost of a global ban versus the risks of cross-border pollution of mercury. The economies of most developing countries rely on the mercury industry. And although developing countries recognize the risk of mercury, they say that the mercury issue has not their priority because of other policy problems concerning basic human needs in their country. To have the mercury issue tackled in these developing countries international collaboration is seen as necessary both in terms of financial and technical assistance (OEWG1, 2007, p.7). Therefore they have developed a more nuanced problem perception than countries that do not rely on the mercury industry. In summary, the mercury problem has a twofold tension. It is recognized that mercury has various risks on human health and the environment and therefore there is a need to discontinue the use of mercury. On the other hand, the notion is made that the mercury industry is important for those countries' economic development and social development (OEWG1, 2007) (OEWG2, 2008). So, the mercury can be considered both harmful and important. Because of this tension most countries have are more nuanced problem perception than only seeing mercury as a harmful substance? However, their nuanced problem perception is changed later in the negotiation processes. Because of interaction between the participants, and the willingness among the stakeholders to help the developing countries with discontinuing the use of mercury, the developing countries have become more willing and more committed to the global attempt to discontinue the use of mercury over its entire life chain.

### *A two-fold tension*

The *policy stream* also recognizes the tension between dynamic problem attention and slow policy development. So policy ideas may exist for a long time before policy is developed. Some policy ideas may never be translated into policy. This stream implies that radical change is not likely, also because it could lead to strong objections by the public (Kingdon, 1995).

An important drive for governing the discontinuation of mercury is because mercury uses have various risks concerning human health and the environment. In the OEWG meetings the involved actors pointed out several times that global action needed to be undertaken because of the human health and environmental risks (OEWG1, 2007, p.2). Because of these risks several involved actors urged towards further and rapid comprehensive global action, some of the involved actors urged caution about moving too quickly and suggested that more information was required (OEWG2, 2008, p.5). For example, the risks of the use of mercury call for immediate measures. The longer the ''government'' waits to act, the more people and the environment are exposed to the mercury risks. On the other hand, immediate action without information about the consequences of discontinuing the use of mercury could result in other negative effects. As discussed, most developing countries rely economically on the mercury industry. With rapid action in discontinuing the use of mercury, those developing countries may face more economical problems. This issue illustrates the tension between the dynamic problem attention and slow policy development. In addition, this issue also illustrates the interaction between the *problem stream* and the *policy stream* since it illustrates the dynamic processes of the framing and attention of the policy problem which have led to several policy ideas.

The lack of resources also contribute to the tension between dynamic problem attention and slow policy development. Which again shows the interaction between the *problem stream* and the *policy stream.* In the INC meetings it becomes clear that especially developing countries are not able to discontinue to use of mercury because they lack financial resources and are technically not capable to discontinue the use of mercury (OEWG1, 2007, p.5).

Concluding, regarding to risks of mercury rapid action is demanded. However, the lack of knowledge and a lack of resources and capability contribute to very slow policy development. This illustrates the

importance of the role of knowledge in *the policy stream* since the lack of knowledge has led to slow policy development. In order to develop a successful discontinuation policy, the lack of knowledge and the lack of capabilities the developing countries need to be addressed. In the INC meetings the lack of knowledge is addressed by providing new information that is gathered during intersessional work. The lack of resources and capability issues are addressed by providing both technical and financial assistance for (developing) countries that are not able to discontinue the of mercury by themselves (Minamata Convention, 2013).

### *Role of alternatives in the governance shaping process*

An important part of the *policy stream* of the global discontinuation governance is the availability of alternatives to the several mercury uses. According to the rational choice perspective, a discontinuation is positively related to knowledge on hazards and to the availability of alternatives. Maguire (2002) challenges this rational choice perspective by emphasizing that knowledge on the hazards of DDT and alternatives to DDT long existed before the ban on DDT (Maguire, 2000). Based on the empirical findings in the mercury case, I agree that the rational choice perspective overestimates the role of alternatives in the discontinuation governance process. Alternatives to some mercury uses do exist for a long time before these mercury uses are globally discontinued. However, the role of alternatives should not be underestimated. Without these alternatives it will be difficult to discontinue certain mercury uses. This also appeared to be true in the mercury case. In the INC meetings it is decided that when there is no alternative available, exemptions concerning the discontinuation will be formulated and several representatives wish to only discontinue those mercury uses of which there are alternatives available and they demand that further research towards alternatives need to be undertaken (OEWG1, 2007, p. 10) (OEWG2, 2008, pp. 13-14).

In contrary with other policy ideas in the policy stream, the availability of alternatives is a necessary opportunity/policy idea in the mercury case since it is clearly stated that without these alternatives mercury will not be discontinued. Thus, the role of alternatives in the discontinuation process is important but only the existence of alternatives alone will not drive the discontinuation governance. In the mercury case, a necessary opportunity means that without this opportunity the use of mercury will not be discontinued but it does not mean that if this opportunity is present that this will lead to a discontinuation policy. All the discontinuation governance streams need to be developed and meet at the same time in an opportunity window and a capable agent should make use of this opportunity structure of alternatives before a deliberate act of governance will take place (Stegmaier, et al., 2016).

In the mercury case developing countries rely even more on the availability of affordable alternatives because their industries depend more on the use of mercury (OEWG1, 2007, p. 7) (INC3, 2011, p. 6). Therefore, for them the collective global approach to tackle mercury is very important. After all, participating in the global approach, developing countries will get access to research on alternatives which they could not afford conducting, in dealing with mercury on their own (Minamata Convention, 2013).

In the mercury case there a two conditions for alternatives developed. Alternatives to mercury uses need to be both safe and affordable (OEWG2, 2008, p.13). For mercury uses where there is no alternative or if the alternative do not meet the two conditions, the discontinuation for this use is (temporarily) exempted (INC2, 2011, p. 18) (INC2, 2011, p. 24). Continuing research for alternatives is considered important in the INC meetings in order to have all mercury uses discontinued in the future (OEWG1, 2007, p. 10) (OEWG2, 2008, pp. 13-14).

In negotiating the alternatives in the *policy stream*, the role of knowledge is very important. Mainly because of two reasons:

- The first reason is that in order to discontinue all uses of mercury, all uses needed to be mapped. For example, in the mercury case it is important to have knowledge about the sources

of mercury when trying to discontinue all mercury uses. Without this knowledge, the policy maker does not know what to discontinue.

- Secondly, discontinuing embedded uses can have a lot of consequences. For example, some countries' economics may rely on the mercury industry. In case the industries have no alternatives for, for example mercury, this may leave them bankrupt. In addition, embedded mercury uses may be considered important for society (and economy). For example, mercury is also used in some vaccines. If this use is phased out without an affordable and safe alternative, even more people are at risks. The WHO believes that the benefits of this vaccine outweigh the risks of the use of mercury in this vaccine (INC1, 2010, p. 14).

Thus, I have argued that the role of alternatives is very important in the *policy stream.* However, the role of alternatives implies to be also important in the *socio-technical stream* and in the *socio-economic stream.* Some alternatives to mercury uses are developed by markets and not by an act of governance, and can therefore be linked to the *socio-economic stream.* Because of these alternatives socio-technical system are already subject to change before there is a form of governance intervention. The latter can be linked to the *socio-technical stream.* Though, the role of alternatives gives some implications of the development of both the *socio-economic stream* and the *socio-technical stream*, further research can reveal what other developments have took place in these stream that have shaped the global governance of discontinuation on mercury. In this research, I can only stick with these implications because I have only analysed the (governance) negotiations that have led to the development of the Minamata Convention.

In summary, in the mercury case, discontinuation is also about replacement of the to be discontinued uses. The absence of alternatives to some mercury uses is still an issue in the mercury case. In contrary to the quit similar DDT case, in that case alternative pesticides where already developed, mainly by market initiatives, before the use of DDT was banned by means of the Stockholm Convention (Levain, et al., 2016). However, in other discontinuation cases, for example the nuclear energy case, de-alignment can be decoupled from re-alignment. ''*While power plants in theory may be substituted by all kinds of non-nuclear energy generating systems, the grid infrastructure in Germany, in particular, is not yet ready to distribute large amounts of renewable energy across the country*'' (Stegmaier, et al., p.3, 2016). As discussed above, in order to get complete insight in the development of the alternatives pathway of the several mercury uses, further research should be conducted and could reveal what developments have took place in the *historical-cultural stream, the socio-economic stream* and the *socio-technical stream.*

### *Opportunity structures and motives for change*

These problem shaping processes, discussed earlier in this chapter, that have led to shift from a social or domestic policy problem into a global policy problem can also mostly be addressed as motives for undertaking a deliberate act of global discontinuation governance. As discussed, the Governing Council of UNEP is an important capable agent in the mercury case but also the interplay between other stakeholders have an important governance shaping role by making use of several opportunity structures because of several motives. Borrás & Edler (2014) argue that the interaction between opportunity structures and capable agents drive the governance of change, in this case the discontinuation governance (Borrás & Edler, 2014, p.26). In other words, if capable agents makes use of opportunity structures it is likely that the need for discontinuing the use of mercury will be set on the (global) policy agenda. In addition, the *politics stream* by Kingdon (1995) identifies two components for policy entrepreneurs to take action, they need to have a motive and an opportunity to take action. The use of

several, some interacting, motives and opportunity structures have led to the decision of the Governing Council of UNEP to explore options for a global discontinuation policy.

- *Cross-border motive:* A first motive of the Governing Council to take global action is the recognition of the cross-border aspect of the mercury issue. Research pointed out that mercury pollution travels a long time through the environment and therefore not only the ''polluting country'' suffers from the risks of mercury exposure (OEWG1, 2007). Therefore global action is considered necessary in the negotiation meetings (OEWG1, 2007) (OEWG2, 2008).
- *Protection of human health and the environment motive:* A second motive of the Governing council is the importance of the protection of human health and the environment. The Governing Council found that further long-term international action was required to reduce the risks posed by mercury to human health and the environment (OEWG1, 2007, p.1) (OEWG2, 2008, p.1). Also the importance of the protection of human health and the environment is expressed in all the negotiation meetings.
- *Ineffectiveness of fragmented efforts motive:* A third motive for the Governing Council to act is derived from the statement that previous efforts to tackle the mercury issue are not effective enough and that the Governing Council of UNEP found that further long-term international action was required to reduce the risks posed by mercury to human health and the environment (OEWG1, 2007, p.1) (OEWG2, 2008, p.1). Therefore a comprehensive global legally approach is considered necessary (OEWG1, 2007, p.1) (OEWG2, 2008, p.1).

Besides these motives the Governing Council of UNEP made use of several opportunities to undertake global action to tackle the mercury issue.

- *Available alternatives opportunity:* A first opportunity has been the availability of alternatives to certain mercury uses. Without this opportunity it would be very hard to discontinue the use of mercury since the use of mercury is embedded in numerous practices. In the INC meetings it is decided that mercury uses without an affordable and safe alternative will not (yet) discontinued (INC2, 2011, p. 18) (INC2, 2011, p. 24).
- *Willingness among actors opportunity:* Secondly, the Governing Council has made use of the willingness among the actors. The Governing Council of UNEP experienced there was a broad consensus among the involved actors about the magnitude and urgency of the mercury problem (OEWG2, 2008, p.2). Because actors were open and are willing to contribute to change, it is easier to take global action against the risks of mercury.

## 4.2 Instrumentation

The next step for the UN is to develop a comprehensive instrument to govern the discontinuation of mercury. But *how exactly is the global discontinuation of mercury governed and by which means*? It is easy to assume that a governmental actor has made the most important decisions that led to the realisation of the Minamata Convention. That it is a governmental party who decides what is the best way forward to tackle the mercury issue. Colebatch (2009) adds a more nuanced understanding to the policy concept. Namely that policy is used in order to shape action by multiple-stakeholders (Colebatch, 2009, p. 11). Adding to this statement, Smith (2006) the UN has participatory nature (Smith C. B., 2006). This means that the global UN convention, the Minamata Convention on mercury, is shaped by multiple state- and non-state actors. The mercury case proves indeed that the view that only a governmental party makes policy decisions is too simplistic. The instrumentation stream is not only about deciding how to tackle a certain policy issue, it is about negotiations with multiple actors,

sense-making and decision making on diverse policy issues. In this chapter I will explain the instrumentation discourse by means of the separate policy cycle stages by Colebatch (2009). Fischer, Miller & Sydney (2007) have discussed the critique on the policy cycle in their work. The primary critique is on the analytical differentiation of the policy process into separate and discrete stages and sequences. Clear cut separation between policy formation and implementation is hardly reflecting real-world policy-making (Fischer, Miller , & Sidney, 2007, pp. 55-56). This means that the ''stages'' of the policy cycle are not that separate in the real world policy-making. Therefore I will address the ''stages'' of the policy making process as streams. In addition, I will not further elaborate on the policy cycle idea because the policy making process is about stream. Therefore, the policy cycle model is only used to identify the most important ''streams'' in the instrumentation process. In my analysis I will also emphasize and discuss why the policy making stages should be addressed as ''streams''. I will further elaborate on this choice during the analysis in this chapter. On top of that I will address the most important instrumentation questions presented by Borrás & Edler (2014).

### *Determining goals streams*

Before turning to the goals that are set concerning the mercury case, it is crucial to see who was actually involved in determining these goals. As I explained in the previous chapter the Governing Council of UNEP can be seen as the policy entrepreneur in the mercury case. However in both the OEWG meetings and the INC meetings there are much more representative stakeholders involved in the negotiation processes. In each meeting there are representatives of States, representatives of international organizations, representatives of intergovernmental organizations and representatives of non-governmental organizations attending the negotiations (OEWG1, 2007) (OEWG2, 2008) (INC1, 2010) (INC2, 2011) (INC3, 2011) (INC4, 2012) (INC5, 2013) (INC6, 2014) (INC7, 2016). According to Smith (2016) the role of nongovernmental organisations becomes more and more important and they can influences the content and the direction of the UN debate (Smith C. B., 2006, p. 119). In the INC meetings it became clear that nongovernmental organisation indeed provide many input in the negotiation process. The involved state parties and regional economic integration organizations that are a member of a specialized agency of the UN have also the right to vote in the decisions making processes. These rights are drawn from the rules of procedure of INC to prepare a globally legally binding instrument on mercury (INC1, 2010, p.25) (INC3, 2011, p. 22) (INC5, 2013, p. 52) (INC6, 2014, p. 60). Obviously there is a broad inclusiveness in the policy making process which likely relates to the very complex mercury issue. After all, they try to discontinue the use of mercury in its entire life chain which will affect many actors. The broad deliberation also means the inclusion of many expert actors. For example, in the INC meetings there is advocated for the inclusion of regional centres and UNEP regional offices because they are familiar with the current conditions and needs in the region. In order to determine realistic goals, the advisory role of expert actors is considered very important (INC1, 2010, p.5). In the table below the attendance of the fifth INC meeting is expressed. Since the attendance in the several INC meetings is pretty much the same, the attendance of the fifth meeting is randomly chosen. More specifically, this table shows that some NGO's represent the interest of industries that deal with a specific mercury aspect, such as the World Coal Association, while other NGO's represent a more general and public interest in the mercury discontinuation, for instance the Centre for Public Health and Environmental Development. The table also shows that there are Secretariats of other multilateral agreements represented. Some of these multilateral agreements already address parts of the mercury issues, for example the

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. These Secretariats are represented for the purpose of learning and sharing experience in establishing a comprehensive global approach to tackle a certain policy issue.

| Type of actor | Actors |
|---|---|
| **Governmental organizations /state actors (GO's)** | Afghanistan, Albania, Algeria, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia (Plurinational State of), Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Chad, Chile, China, Colombia, Comoros, Cook Islands, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Democratic Republic of the Congo, Denmark, Djibouti, Dominican Republic, Ecuador, Egypt, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Germany, Guatemala, Guinea, Guyana, Haiti, Honduras, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Jamaica, Japan, Jordan, Kenya, Kiribati, Kyrgyzstan, Lebanon, Liberia, Libya, Lithuania, Luxembourg, Madagascar, Malaysia, Mali, Marshall Islands, Mauritania, Mauritius, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Russian Federation, Saint Kitts and Nevis, Samoa, Saudi Arabia, Senegal, Serbia, Seychelles, Singapore, Slovakia, South Africa, Spain, Sri Lanka, State of Palestine, Sudan, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, the former Yugoslav Republic of Macedonia, Togo, Tunisia, Turkey, Uganda, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of), VietNam, Yemen, Zambia, Zimbabwe. |
| **International Organizations (IO's)** | Food and Agriculture Organization of the United Nations, Global Environment Facility, Office of the High Commissioner for Human Rights, United Nations Children‟s Fund, United Nations Economic Commission for Europe, United Nations Industrial Development Organization, United Nations Institute for Training and Research, World Health Organization. |
| **Intergovernmental Organizations (IGO's)** | African Union Commission, European Union, International Energy Agency Clean Coal Centre, Regional Activity Centre for Cleaner Production, South-Asia Cooperative Environment Programme, World Organization for Animal Health. |
| **Representatives of other multi-lateral agreements** | Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Stockholm Convention on Persistent Organic Pollutants |
| **Non-governmental organizations (NGO's)** | Asociacion LatinoAmericane Del Acero (ALACERO), Alliance for Responsible Mining (ARM), Armenian Women for Health and Health Environment, Arnika, Toxics and Waste Programme, Artisinal Gold Council, Associacao de Protecao Ao Meio Ambiente de Cianorte (APROMAC), Balifokus, Ban Toxixs, Biodiversity Research Institute, Blacksmith Institute, California Indian Environmental Alliance, Cefic, Centre for Public Health and Environmental Development (CEPPHED), Citizens Agains Chemicals Pollution (CACP), Coalition for Merucry Free Drugs (COMED, INC.), Darmouth College, Development Indian Ocean Network (DION), Ecolomics International, Environment and Social Development Organizations (ESDO), European Lamp Companies Federation (ELC), FDI, World Dental Federation, Gavi Alliance, Ground Work, Friend of the Earth, Healthcare Without, Human Rights watch, Ilima Organisation, International Academy of Oral Medicine and Toxicology (IAOMT), International Association for Dental Research (IADR), International Council on Mining and Metals (ICMM), International Dental Manufactures Association, International Federation for Animal Health (IFAH), International Indian Treaty Council (IITC), International Petroleum Industry Environmental Conversation Association (IPIECA), International Pops Elimination Network (IPEN), International Society of Doctors for the Environment (ISDE), Inuit Circumpolar Council (ICC), Island Sustainability Alliance CI INC. (ISACI), Jeunes Volontaires pour le Environment (JVE), League of Independent Activits, Mit Joint Program on the Science and Policy of Global Change, Natural Resources Defence Council, Princeton Environmental Institute, Rapal Uruquay, Research and Education Center for Development (CREPD), Society of Environmental Toxicology and Chemistry (SETAC), the European Cement Association (CEMBUREAU), Toxic Links, United State Council for International Business, World Alliance for Mercury Free, World Chlorine Council (WCC), World Coal Association (WCA), World Federation of Public Health Associations, World Medical Association, Zero Mercury Working Group, Zoï Environment Network |

*Table 1: Attendance in the INC meetings (INC5, 2013, p.4)*

Going back to how the goals of the instrument are being determined, I believe there is some overlap with the previous chapter on the governance shaping dimension. In the policy stream several policy ideas are already present and the problem definition in the problem stream does indirectly propose a certain goal. Therefore, this stream in which the goals are determined will only shortly be discussed in this chapter.

Besides that, it becomes clear that these ''stages'' are not as separate and linear as the policy cycle theory assumes. Therefore I have addressed these ''stages'' as streams, based on the critique on the policy cycle by Fischer et al. (2009) because these streams interact with each other. In the INC meetings

many representatives argue that the instrument's objectives should not be discussed until the instruments remaining content has been defined. This statement is given because the representatives find that the objectives might not accurately reflect the instrument's content (INC1, 2010, p. 8).

Still, some main objectives are formulated in a very early stage in the policy making process. ''At its twenty-fourth session, in February 2007, the Governing Council of UNEP adopted decision 24/3 IV. In that decision, the Governing Council concluded that further long-term international action was required to reduce the risks posed by mercury to both human health and the environment'' (OEWG1, 2007, p.1) (OEWG2, 2008, p.2). Here the main goals are the protection of human health and the environment from the risks of mercury. Consequently the Governing Council of UNEP mandated the OEWG with reviewing and assessing options for enhanced voluntary measures and new or existing international legal instrument (OEWG1, 2007, p.1) (OEWG2, 2008, p.2), and mandated INC with the task to develop a comprehensive and suitable approach to mercury (International Institute for Sustainable Development (IISD), 2007) (International Institute for Sustainable Development (IISD), 2009). Also it is decided to tackle the use of mercury in its entire life chain (OEWG1, 2007) (OEWG2, 2008). So the main goals were determined in a very early stage.

In case of the mercury issue, all involved actors agree that using mercury has some devastating risks concerning the human health and the environment. At its first meeting of the OEWG it became clear that there was a high level of interest in tackling the mercury problem. It was seen as proof that stakeholders were committed to placing global cooperation ahead of national or sectoral interest (OEWG1, 2007, p.2). So it is plausible to assume that there was some sort of consensus on the norms, values, ideals and interest at stake in determining the main goals. Or in other words there is goal consensus since all parties recognized the risks of mercury towards the public health and the environment, and they all agreed that this issue needs to be tackled (OEWG1, 2007). The involved stakeholders also agreed that the mercury issue need to be tackled over its entire life chain. Although this ''entire life-chain approach'' was introduced in a very early stage, the content of this approach was only developed when the course of action became more clear. Therefore this ''entire life-chain approach'' will be discussed in the ''choosing the course of action'' section.

Subsequently, in a later stage, when the course of action became clear, more objectives adding to the main objective where formulated. The representatives in the INC meeting have decided that the objectives will be formulated in terms of actions rather than in outcomes .This approach tries to realise an active attitude from the involved actors and will hopefully add in the effectiveness of the instrument (INC1, 2010, p. 8). Since it is decided to formulate the objectives in terms of actions, the course of action section will clarify more objectives set in the mercury instrument.

### *Choosing course of action stream*

In the previous section of this chapter I already pointed out the broad representation of stakeholders in the policy making process on mercury. In terms of choosing course of action, this broad deliberation means also the inclusion of many expert actors. Participants of the negotiations highly value involvement of expert actors. For example, ''representatives said that, given the importance of human health in the negotiations, occupational health and safety organizations should participate in the negotiations. And that regional centres and UNEP regional offices should be involved as they were familiar with current conditions and needs in the regions'' (INC1, 2010, p.5)**.** Moreover, in the INC meetings it became clear that there are a lot of knowledge gaps in the mercury case. For example, many representatives said that little information was available on a number of important topics, including how to deal with surplus mercury resulting from restrictions or band on mercury use or trade and what would

be the cost of the transition away from mercury in product and processes. On top of that representatives argued that more and better technical knowledge was needed in order to storage mercury effectively. Also there was a need for more research on alternatives for mercury uses, since not all mercury uses can be replaced by an alternative (OEWG1, 2007, pp. 10-12) (OEWG2, 2008, p. 5)(INC1, 2010, pp.13-17). Due to these knowledge gaps it became even more important to include experts in the policy making process.

However, the main problem for the OEWG was that the involved actors failed to agree on how to deal with the continued exposure of populations and ecosystems to mercury (OEWG1, 2007, p.2). As discussed, therefore mandated the Governing Council of the United Nations Environment Programme the OEWG on mercury with the task to review and asses options for enhanced voluntary measures and new or existing international legal instrument (OEWG1, 2007, p.1) (OEWG2, 2008, p.1). So it became clear there was no mean consensus among the involved actors. It was the task of the OEWG to find out what is the best way forward to tackle the mercury issue and subsequently to realise mean consensus. In both meetings of the OEWG on mercury it is also recognized that there are still information gaps and more research should be conducted in order to establish an effective way forward to tackle the mercury issue. Existing data is found to be insufficient in the first meeting of the OEWG. Intersessional work should result in more knowledge on the mercury issue and also the exchange of knowledge among the involved actors should contribute to a better understanding of the mercury issue (OEWG1, 2007, p.11-13) (OEWG2, 2008, p.13).

The main discussion on the course of action in the OEWG meetings was between a legally binding instrument and tackling mercury by voluntary measures. Proponents of a legally binding instrument argued that this approach would be the strongest expression of common commitment and would underpin a long-term solution. And that it would ensure transparency, oversight, coherence and a comprehensive approach. A legally binding instrument would be the most effective since the obligations of parties would be clear, participation would be broad and countries would be more likely to introduce national measures and legislation than they would under a voluntary regime (OEWG1, 2007, pp.4-6) (OEWG2, 2008, pp.7-8). Proponents of a voluntary framework argued that it would speed up the implementation, reduce the opportunity of cost in comparison with a legally binding instrument and that it would be more flexible(OEWG1, 2007, pp.4-6) (OEWG2, 2008, pp.7-8). In the end the representatives of the OEWG meeting decided that a legally binding instrument to tackle the mercury issue was the best way forward to achieve the main objectives concerning the use of mercury, the protection of both the environment and human health (OEWG2, 2008).

As earlier discussed, the goal of the INC meetings was to prepare a global legally binding instrument on mercury. This instrument is about how the determined goals should be achieved. However, I can imagine that it is not easy to prepare such a comprehensive instrument. Especially as it is decided that the instrument should cover mercury in its entire life chain and also because the global instrument will affect a lot of actors. For example, it will affect different states with different circumstances. Obviously, one size does not fit all and therefore choosing a course of action to fit all involved state parties will become a difficult task (OEWG1, 2007) (OEWG2, 2008).

Because the mercury instrument has to cover the entire life chain of mercury, this means that not just one technology will be discontinued but (almost) everything related to mercury will be discontinued. In the mercury case, the entire-life-chain approach covers mercury mining, mercury trade, mercury-added products, manufacturing processes in which mercury compounds are used, artisanal and small-scale gold mining, but also deals with emissions, releases, mercury wastes and contaminated sites (Minamata Convention, 2013). So this entire life chain approach will demand a very comprehensive instrument because it has to tackle all aspects concerned with mercury.

So how does the INC prepare such a comprehensive instrument? From the INC meetings it became clear that it involves five main learning processes. The latter four learning processes can be

addressed as learning processes provided by social agents. Borrás & Edler (2014) the importance of the social-agent who can trigger social action in the instrumentation dimension (Borrás & Edler, 2014, p. 31). Adding to this, Smith (2006) argues that some actors can inspire other participants in the participatory environment of the UN (Smith C. B., 2006, p. 296). In the mercury case these social agents are the participant who can inspire the global discontinuation governance by means of sharing their experience. This knowledge exchange can inspire other participants to act.

First of all, the development of the mercury instrument (the Minamata Convention) has followed the standard rules of procedure for developing a global treaty. The UN office of legal affairs developed a Treaty Handbook in which a legal framework on global treaties is provided (United Nations, 2012). This legal framework also is present in the Minamata Convention. For example, the Minamata Convention has provisions on signature and entry into force (Minamata Convention, 2013), which are derived from the legal framework presented by the Treaty Handbook. In this case the INC can learn from standard procedures. This legal framework is an important development in the *meta governance* stream from the discontinuation stream model by Stegmaier, et al. (2016). This legal framework is a part of ''how things are done'' in the context of global convention making and can be considered as a form of ''governance on governance''.

Another learning trajectory concerns the expertise from other multilateral agreements. In both the OEWG meetings and the INC meetings are secretariats from various multilateral environmental agreement secretariats represented (OEWG1, 2007) (OEWG2, 2008) (INC1, 2010) (INC2, 2011) (INC3, 2011) (INC4, 2012) (INC5, 2013) (INC6, 2014) (INC7, 2016). Their expertise is highly valued by the other involved parties because these secretariats from other multilateral environmental agreements can help seek synergies, avoid overlapping mandates and duplication of efforts and take advantage of relevant experience (INC1, 2001, p.5). So, in this case learning processes from other multilateral agreements are used in order to establish a globally legally binding instrument on mercury.

Additionally, the INC made use of learning processes from other fragmented global policies on mercury. Before initiating the meetings in which a globally legally binding instrument on mercury should be developed, UNEP had experience with its voluntary mercury programme named UNEP Global Mercury Partnership (UNEP, 2016). Besides that, other multilateral agreements do cover parts of the mercury issue, but not its entire life chain. For example, the representatives of the Secretariat of the Basel Convention noted that the Basel Convention has provisions on movements of wastes containing mercury and on technology transfer and capacity building (OEWG1, 2007, p.5).
However the Governing Council of UNEP has stated that former measures to tackle the mercury issue were not effective enough, it does not mean that no lesson can be learned from these measures. Indeed, mistakes in these fragmented global policies can be prevented in the attempt to tackle the mercury issue in its entire life chain with a global legally binding instrument.

Moreover, lessons can be learned from Intergovernmental Organizations. For example, in the INC meetings representatives of the European Union drew attention to the extensive European legislation that covered almost all substantive areas of mercury (INC1, 2010, p.7). This extensive European legislation can function as an example of effective mercury policy. Still, in the INC meetings the representatives keep in mind that not one policy fits all involved actors, so this European mercury policy that applies to developed, European Countries will not necessarily be effective in developing countries.

Last, lesson can be learned from domestic policies which tried to tackle the mercury issue. During the INC meeting several state actors drew attention to their policy to tackle the mercury issue (OEWG1, 2007, p. 4) (OEWG2, 2008, pp. 2-5) (INC1, 2010, pp. 3-6). Some states have stricter mercury regulation than others. The states with a (strict) policy on mercury and those who experience positive results from this policy share their knowledge in the INC meetings. This experience can contribute to an effective instrument to tackle the mercury issue. However, I would like to add that a mercury policy that suits country A very well, does not mean that this policy works for country B. Again, one size does not fit all. This policy issue will be discussed later in this chapter.

In sum, the way to establish a comprehensive legal instrument to discontinue the use of mercury, and probably also for other technical uses or socio-technical systems, is not completely set out in a legal document. Of course, the treaty handbook is a good guide for the inclusion of important legal

provisions in multilateral agreements but the actual instrument is developed by means of experience in other cases dealing with discontinuation governance (on mercury).

**Global- and discontinuation policy issues**

Besides these learning processes the participants in the INC meetings still experienced several policy issues. The main policy issues are related to the discontinuation aspect and the global aspect of the instrument. Since the thesis subject is about global discontinuation governance, these policy issues will be discussed and analysed in this section.

**Discontinuation policy issues**

As earlier discussed, the mercury instrument tries to discontinue the use of mercury in its entire life chain. However, discontinuation governance is not only about completely discontinuing certain technical uses or socio-technical systems. In the mercury case it became clear that there are several forms of discontinuation strategies.

First of all, the participants in the INC meetings had to make a decision between a positive-list approach, negative-list approach and a more hybrid form of approach in their attempt to discontinue the use of mercury(INC2, 2011, p.17) (INC3, 2011, pp.10-12). A negative list approach means that the governed issue is not allowed unless listed in the annexes of the convention. A positive list approach means that the governed issue is allowed unless listed in the annexes (Söderholm, 2013, p. 288). A more hybrid approach can have both elements from the negative-list approach and the positive-list approach (INC2, 2011, p.17) (INC3, 2011, pp.10-12).

In the mercury case there was an extensive discussion between participants whether to use a positive-list approach, a negative-list approach or a more hybrid approach for both mercury-added products and manufacturing processes in which mercury is used. Participants in favour of a positive-list approach argued that this approach is more practical, accessible and cost-effective, and would encourage a swifter decrease in mercury use in products (INC2, 2011, p.17) (INC3, 2011, pp.10-12). Participants in favour of a negative-list approach argued that the elimination of these mercury uses could be achieved more swiftly with a general ban in place and that it would send a strong signal about the dangers of the of mercury in all contexts. Participants in favour of a more hybrid approach claimed that this approach has more room to allow for transition periods and reflects the differing capacities of developing countries, including Small Island developing States (INC2, 2011, p.17).

In the end, the participants (with the right to vote) voted for a positive-list approach. The mercury-added products and manufacturing processes in which mercury or mercury compounds are used, which should be discontinued according to the instrument are listed in Annex A and Annex B (Minamata Convention, 2013, pp.39-43). The three-list approaches can be seen as the main strategies for a global approach to discontinue technical uses or socio-technical system.

However, besides these list-approaches the discontinuation can be governed by several other discontinuation strategies. In the theoretical framework, I briefly discussed the discontinuation ladder by Stegmaier & Kuhlmann (2016). This discontinuation ladder is comparable to the discontinuation strategies that are used in the governance of discontinuation on mercury. The entire life chain approach deal obviously with a lot of aspects of mercury, and not every aspects can be discontinued equally. For some uses, because of its economic and social relevance, they will not be subject to a complete ban. A ban can be seen as a relatively ''hard'' form of discontinuation, since in this case a certain use will be completely and immediately discontinued. Some uses will be subject to a ban, but only after a certain transition period. In this case a certain use will be phased out until a certain date, therefore this discontinuation strategy can be considered as a less ''hard'' discontinuation measure than an immediate ban. Another discontinuation strategy can be restricting mercury uses or reducing it. In some cases, it will only be feasible to control certain uses or take few measures because the economic and social relevance of the mercury use. Those measures can be seen as relatively ''soft''

discontinuation strategies, as these measures will not be subject to a complete discontinuation. In the mercury case there are several approaches of discontinuing the use of mercury. These different discontinuation strategies are set out from hard discontinuation measures towards relatively soft discontinuation measures in the table below.

| Discontinuation strategy | Mercury uses | Examples |
|---|---|---|
| **Ban (hard discontinuation: not allowing)**<br><br>**Ban (gradual phase out until a certain date, after that date a ban will be enforced)** | New mercury mining (no phase out date),<br>Conducted mercury mining ,<br><br>Export of mercury<br>Import of mercury<br>Mercury added products listed in Annex A part I<br>Manufacturing processes using mercury or mercury compounds listed in Annex B part I | <br><br><br><br><br>Batteries, Switches, Cosmetics, Pesticides etc.<br>Chlor-alkali production<br>Acetaldehyde production in which mercury is used as a catalyst |
| **Reduce and were feasible eliminate** | Artisanal and small-scale gold mining | |
| **Restriction** | Manufacturing processes using mercury or mercury compounds listed in Annex B part II | Vinyl chloride monomer productions, Sodium or Potassium Methylate or Ethylate (measures in list) |
| **Control and were feasible reduce** | Emissions<br>Releases to land and water | Coal fired plants etc. |
| **''Take measures''** | Mercury added products listed in Annex A part II | Dental amalgam (setting national objectives at minimizing its use) |

*Table 2: discontinuation strategies (Minamata Convention, 2013)*

Thus, discontinuation governance is not about immediately banning or ending a certain technology or socio-technical system. In some cases the to be discontinued uses are not ready for a complete ban, which is also the case in global discontinuing the use of mercury. But discontinuation strategies such as reduction can be seen as a preparation phase for the eventual ending of a certain use or system.

Adding to this statement, in the mercury case involved actors have stressed the importance of setting specific time frames for different mercury uses (INC2, 2011, p.18). So, these time frames, in other words transition periods, are very important in discontinuation governance. Especially because the discontinuation of a much imbedded technology use or socio-technical system cannot be banned or otherwise discontinued overnight. Involved actors need time to adapt themselves to the new socio-technical system without mercury uses. For example, industries that make use of, or pollute mercury have to transit to another product, which of course takes time. Without a transition period these industries may end up bankrupt. Of course, this statement should be a bit more nuanced. Because of the fragmented global, supranational, regional and domestic mercury policies, most countries are already eased into the discontinuation of mercury (OEWG1, 2007, p. 4) (OEWG2, 2008, pp. 2-5) (INC1, 2010, pp. 3-6). The different transition dates that are used in the Minamata Convention for the different mercury uses are set out in table 3.

| Mercury uses | Transition date |
|---|---|
| Mercury added-products | **2020** |
| Manufacturing processes in which mercury or mercury compound are used: Chlor-alkali production | **2025** |
| Manufacturing processes in which mercury or mercury compounds are used:<br>Acetaldehyde production in which mercury or mercury compound are used as a catalyst | **2018** |

*Table 3: Transition dates for several mercury uses (Minamata Convention, 2013)*

Not all mercury aspects can be fully discontinued. Dealing with these uses is called after care, and can be considered as a discontinuation policy issue. Stegmaier, Kuhlman & Visser (2014) argue that the aftercare is an important consideration when dealing with discontinuation governance (Stegmaier, Kuhlmann, & Visser, p.114, 2014). Below I discussed the several aspects of mercury that need after-care:

- *Non-replaceable uses:* As discussed in previous chapter and previous section: an exemption will be formulated for mercury uses for which no alternatives are available (INC2, 2011, p. 18) (INC2, 2011, p. 24). The role of knowledge in this aftercare issue is very important, since the mercury instrument contains a provision which addresses the need for research concerning alternatives (Minamata Convention, 2013). So, until there are alternatives available for the exempted mercury uses, these uses will be allowed .This also means that it is likely that the mercury instrument, based on new alternatives, will be adapted in a later stage.
- *Dealing with contaminated sites:* In the INC meetings it became clear that the involved actors considered it important to remediate the already contaminated sites. The discontinuation of mercury uses and pollution would not solve the contaminated site issue and can therefore be considered as an aftercare issue. Striking is that apparently not all contaminated sites are yet identified. Article 12 of the mercury instrument addresses this after care issue by including all Parties in the responsibility to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds (Minamata Convention, 2013, p.20).
- *Environmentally safe storage:* In the INC meetings there was a general consensus among the involved actors that environmentally safe storage of mercury was important for achieving the objectives of the mercury instrument (INC1, 2010, p.17) (INC4, 2012, p. 15) (INC5, 2013, pp. 24-25). Because not all mercury uses will be immediately discontinued and because of the transition periods of mercury discontinuation, there still need to be dealt with mercury wastes. Thus, dealing with mercury wastes can be considered as an after care issue. This mercury waste issue is partly covered under the Basel Convention. The Minamata Convention has set further guidelines to deal with mercury wastes (Minamata Convention, 2013, pp.19-20)

**Global policy issues**

As pointed out earlier, the mercury case is set in a global setting. With the global legally binding mercury instrument there will be an attempt to discontinue the use of mercury on a global level. In the previous chapter I pointed out that this global approach is necessary because mercury pollution has cross-border effects and because developing countries and Small Island States suffer more the consequences of mercury uses. The cross-border effects entails that mercury pollution travels a long time in the air and therefore it has also consequences for non-polluting countries (OEWG1, 2007). Developing countries suffer more the consequences of mercury as they are used as a dumping ground because those countries have no strict regulation concerning mercury. Furthermore, developing countries are seen as incapable of discontinuing the use of mercury by themselves, both financially and technically (OEWG1, 2007, pp. 6-7) (OEWG1, 2007, p. 12) (OEWG2, 2008, p. 4) (INC1, 2010, p. 6) (INC3, 2011, p. 6). Small Islands States suffer more mercury consequences since the (often) with mercury contaminated fish is an important part of their economy (OEWG1, 2007, p. 12). However a global approach seems to be the most suitable for tackling the mercury issue, the global aspect brings several issues in the policy making process.

In a global setting the policy-maker has to deal with many diverse views and with diverse circumstances of the involved actors. In the OEWG and INC meetings several representatives pointed out the importance to take into account these differences among the involved actors (OEWG1, 2007, p. 5) (INC1, 2010, p. 6). Especially the differences in capabilities of developed countries and developing countries will make the development of an effective mercury instrument a challenge. In the INC meetings it is stated that developing countries are both financially and technically incapable in phasing out the use of mercury (OEWG1, 2007, p.5). On top of that, developing countries rely more on the mercury industry (both economically and socially) than developed countries (OEWG1, 2007, p. 7). Since one size does not fit all, these difference are a challenging policy issue. So how exactly is dealt with these differences?

First of all, it is stressed by the participants of the OEWG and the INC meeting that the instrument should take into account the different circumstances (OEWG2, 2008, p. 4)(INC1, 2010, p.6). However, including all specific circumstances into the mercury instrument would likely bring much more complexity to developing a global approach. Subsequently, during the negotiations many representatives stressed out the importance of flexibility in the mercury instrument in order to deal with the diverse circumstances of the involved state parties (OEWG1, 2007, p. 4) (INC1, 2010, p. 6). In the end, this policy issue on flexibility is addressed by introducing national implementation plans in the mercury instrument. Here the state parties are offered discretion to establish a plan to achieve the instruments objectives based on their circumstances (INC2, 2011, p.30) (INC4, 2012, p.22) (INC5, 2013, p.32).

As stated before developing countries and Small Island States are considered both financially and technically less capable in discontinuing the use of mercury than developed countries (OEWG1, 2007, p.5) (INC1, 2010, pp.9-10). This statement is based on the experience that developing countries and countries with economics in transition already faced great challenges in implementing the Basel, Rotterdam and Stockholm conventions (INC1, 2010, p.10) Therefore the participants in the INC meetings stressed the importance of offering financial and technical assistance for developing countries and Small Island States (OEWG1, 2007,p.5) (INC1, 2010, p.9) The establishment of such assistance is partly based on learning from previous experience in other multi-lateral agreements. The Basel, Rotterdam and Stockholm Convention is also dealt with this capability issue and lessons can be learned from their technical- and financial assistance mechanism (INC1, 2010, p.10). Also the inclusion the Global Environment Facility (GEF) in dealing with this policy issue is very much appreciated by the participants in the negotiations. Many representatives argued that GEF should play an important role in the financial mechanism for mercury, because of its considerable expertise and its active role on related issues (INC1, 2010.p.10) (INC2, 2011, p.26) (INC3, 2011, p.20) (INC4, 2012, p.18) (INC5, 2013, p.26). In the end there is decided that GEF will provide developing parties and parties with economies in transition with financial assistance and that a specific international Programme will support capacity-building and technical assistance. Together these facilitators are called the Mechanism. All Parties, within their capabilities are encouraged to contribute to the Mechanism. Concerning capacity building and technical assistance, the instrument demands transparency. All Parties, within their capabilities, shall cooperate to provide technical assistance and appropriate capacity building by means of technology transfer. The Mechanism shall seek for other resources, including from the private sector, to contribute to the funding resources (Minamata Convention, 2013, pp.21-23). So financial contribution has a voluntary character. This may seem problematic for providing GEF with enough resources. However, the INC meetings have shown that many actors have shown their dedication to the mercury issue (OEWG1, 2007, p. 2) (INC5, 2013, p. 8). Moreover, the mercury issue has a cross-border aspect, which means that if developing countries cannot successfully discontinue the use of mercury it may also affect developed countries. Therefore this voluntary contribution seems plausible in order for the funding to work.

Another global policy issue derived from the mercury case is about who is responsible in achieving the objectives set in the mercury instrument. And more in terms of costs, who will pay for the discontinuation of mercury? Some countries contribute significantly more to the mercury pollution, while other countries, with (barely) no mercury pollution may suffer the consequences because of the cross-border effect of mercury. In the INC meetings it became clear that the polluting country will carry the responsibilities of discontinuing the use of mercury in its own country. The representatives of the INC meetings also see an important role of the private sector in dealing with the costs of the discontinuation of mercury. Here the representatives refer to the ''polluter pays'' principle, which is derived from the Rio Principles (INC1, 2010, p.6) (INC2, 2011, p.5) (INC5, 2013, p.27) (INC6, 2014, p.15). However, this approach will lead to the same policy issue as described in the previous paragraph: Developing countries and countries with an economy in transition are considered incapable to bear the cost of discontinuation. Here again this policy issue is addressed by referring to a Rio Principle, namely the principle of common but differentiated responsibilities. This principle takes into account the specific circumstances of a state party (INC1, 2010, p. 6) (INC2, 2011, p. 5) (INC3, 2011, p. 5) (INC5, 2013, p. 10). This policy issue is addressed, as discussed above, by providing both financial and technical assistance to the lesser capable state parties. So here there is learned from the Rio Principles in how to deal with certain policy issue.

In summary, learning processes are not only used in how to establish a global legally binding instrument but also for dealing with several policy issues. Both the discontinuation aspects and the global aspect in the policy making process brings specific policy issues into deciding the course of action.

### *Preparation stream*

Due to the global aspects and discontinuation aspects of the mercury policy, ''the choosing course of action stream'' will not be immediately followed by ''the implementing course of action stream''. In mercury case an interim period exist, in which several interim measures can and need to be undertaken (UNEP, 2016). Therefore I will add another stream to the discontinuation policy making streams, the preparation stream. This extra stream is based on several global- and discontinuation issues:

- *Preparation of national implementation plans:* First of all, State Parties need time to prepare and develop their national implementation plans (INC2, 2011, p.30) (INC4, 2012, p.22) (INC5, 2013, p.32). This will happen neither in the choosing course of action stream nor the implementation stream. In the previous stream I discussed the national implementation plans as a respond to the policy issue on diverse actions. In the ''choosing course of action stream'' it is decided that national implementation plans need to be developed but the actual development has not took place yet. Furthermore, national implementation plans will only be developed when the course of action is clear (INC2, 2011, p.30) (INC4, 2012, p.22) (INC5, 2013, p.32). The implementation stream will entail the actual implementation of these national implementation plans.

  Because of this global aspect another stream occurred in the mercury case, which I call the preparation stream. In this stream the national implementation plans are developed by State Parties based on what approach fits best for their own country (INC2, 2011, p.30).
- *Ratification processes:* It is decided that after the course of action, and before the instrument can be implemented, a *ratification process* needs to take place. This ratification process is a standard procedure of multilateral agreements, so also a procedure of the mercury instrument. This process can therefore be considered as a global aspect in the policy making process. Ratification is about allowing States time to seek approval for the treaty at the domestic level and to enact any legislation necessary to implement the treaty domestically. This means that

measures to tackle the mercury issue will be taken before the Minamata Convention enters into force and get implemented. Here after, a state can express their ''readiness'' by signing the treaty (United Nations, 2012, p. 9). In order to fasten this ratification process several workshops are held by UNEP in order to support ratification and early implementation (UNEP, 2016).

- *Transition periods: Transition periods* are a discontinuation aspect that cause the need for an extra stream in the policy making streams. After choosing the course of action, the use of mercury cannot be discontinued overnight. So before discontinuation strategies can be implemented, involved actors need to be eased into a new socio-technical system without mercury, in other words transition periods are needed. As discussed in the previous chapter, discontinuation is often about replacing certain technologies, and in some cases discontinuation is about enhancing certain technology uses. In both cases, the involved actors need time to replace or enhance their technologies. Industries who are making use of, or pollute, mercury in their production process need time to transit to mercury free products and/or mercury free technologies. Consumers possessing and using mercury-added products need to be aware of the risks of mercury in order for them to replace their mercury-added products. And since awareness raising costs time, the consumers will not replace their mercury-added products overnight.

Although most ''preparation'' stream aspects are already discussed in the ''choosing course of action'' stream, this extra stream is a characteristic for the global discontinuation governance of mercury. Moreover, in previous streams I also noticed some overlap in the, to be assumed, separate successive stages. Therefore I have addressed these ''stages'' as streams, based on the critique on the policy cycle by Fischer, Miller & Sydney (2007) because these streams interact with each other. Furthermore, in the ''choosing course of action stream'' the policy makers discussed these global- and discontinuations aspects as a policy issue. This means that the discourse in the choosing course of action stream was about ''how to deal'' with these global- and discontinuation aspects. In this preparation stream it is about actually dealing with these policy issues, before implementation. For example, the actual development of the national implementation plans, or the measures undertaken during a transition period by a Party in order to make the industries and other involved actors ready for the actual discontinuation. Thus, to the policy making stages by Colebatch (2009), which I addressed as streams, will include an extra stream in case of global policy making and/or in case of discontinuation policy making. These policy making streams are represented in table 4.

| Policy making (Colebatch,2009) | Global policy making | Discontinuation policy making |
|---|---|---|
| Determining goals | Determining goals | Determining goals |
| Choosing course of action | Choosing course of action | Choosing course of action |
| Implementing course of action | ***Preparation course of action*** | ***Preparation course of action*** |
| Evaluating results | Implementing course of action | Implementing course of action |
| Possible modification policy | Evaluating results | Evaluating results |
| | Possible modification policy | Possible modification policy |

**Table 4. Global discontinuation governance policy streams**

Both the discontinuation aspects and the global aspect in the policy making process brings specific policy issues into deciding the course of action and into preparing the course of action. These global discontinuation policy issues are represented in table 5.

| Discontinuation policy issues | Global policy issues |
|---|---|
| Choosing between three regulatory strategies:<br>- Negative list approach<br>- Positive list approach<br>- Hybrid form | Dealing with the diverse circumstances of all the state parties |
| Choosing between several discontinuation strategies:<br>- Ban<br>- Phase out<br>- Reducing<br>- Restricting<br>- Controlling<br>- Take measures | Organising financial- and technical assistance for developing countries and countries with economies in transition |
| Determining the transition periods | Determining who is responsible for the achievement of the objectives |
| Dealing with aftercare issues | Preparing national implementation plans |
| Determining proper transition periods | Ratification of Convention |

*Table 5: Global discontinuation policy issues*

### *Implementing course of action stream*

In this section I will shortly address the implementation plans of the mercury instrument. I will not go into depth since the Minamata Convention is not implemented yet (Minamata Convention on Mercury, 2016a). However, while deciding the course of action, the implementation is also discussed in the negotiations. Here again, the separate successive stages are not as separate as the theory does assume. Therefore, based on the critique on the policy cycle by Fischer, Miller & Sydney (2006), these ''stages'' are addressed as stream which interact with each other.

As discussed in the global policy issue section, representatives in the INC meetings urged for flexible implementation plans in order to deal with the significant differences in national circumstances with regard to mercury (INC2, 2011, p.30) (INC4, 2012, p.22) (INC5, 2013, p.32). This flexibility is tried to be achieved by introducing national implementation plans in which the State Party receives discretion to adapt their implementation plan to the specific circumstances in their country (INC4, 2012, p.22). Striking was that in the INC meetings there was a discussion on whether these national implementation plans should be mandatory (INC2, 2011, p.30) (INC4, 2012, p.22) (INC5, 2013, p.32). But I wonder what

exactly does mandatory mean if non-compliance has no punitive effects? I will address this puzzle more in depth in the discussion chapter.

When the implementation plans where considered in the INC meetings, most of the time the representatives linked implementation with compliance. The argumentation for this is that in case the implementation is properly assisted, both technically and financially, the Parties of the Minamata Convention will more likely comply with the instrument. (INC1, 2010, p.9) (INC2, 2011, p.30) (INC3, 2011, p.22). This link that is made between implementation and compliance also implies that the policy cycle ''stages'' are not that separate as policy cycle assumes. Therefore I have addressed these ''stages'' as streams, based on the critique on the policy cycle by Fischer, Miller & Sydney (2007) because these streams interact with each other. Also in the implementing the course of action stream, the representatives of the INC meetings have made use of learning processes. For example, UNEP has developed guidance on the implementation of multilateral environmental agreements (INC3, 2011, p.22). This means that this guidance is also applicable on the mercury case, since the mercury instrument can be considered as a multilateral environmental agreement.

In short, the implementation in the mercury case is about flexibility, is guided by both financial and technical assistance and will take into account implementation experiences from other multilateral-agreements and the expertise of UNEP in implementation issues.

### *Evaluating results stream*

In this section I will briefly address the plans for evaluating the results of the Minamata Convention. Again, the evaluation did not take place yet because the Minamata Convention has not entered into force (Minamata Convention on Mercury, 2016a). Nevertheless, the plans for evaluating the results of the mercury instrument are already discussed in the INC meetings, while the participants where determining the course of action. Again, the ''separate'' successive stage of the policy cycle overlap, and therefore these stages are not that separate as the theory does assume. Therefore I have addressed these ''stages'' as streams, based on the critique on the policy cycle by Fischer, Miller & Sydney (2007) because these streams interact with each other.

The effectiveness evaluation of the mercury instrument will include reporting, monitoring and compliance (Minamata Convention, 2013). The effectiveness evaluation will be conducted by the Conference of Parties, no later than six years after the date of entry into force of the Minamata Convention. The Conference of Parties is established by the mercury instrument and will exist of the State parties and regional economic integration Parties present at the Conference. Their evaluation task will be conducted by providing themselves with comparable monitoring data, evaluating the reports submitted by the Parties and evaluation conducted based on available scientific, environmental, technical, financial and economic information (Minamata Convention, 2013). In case some mercury provisions prove to be ineffective, it is likely that the mercury instrument will be adapted by the authority of the Conference of the Parties. In this case, new goals will be determined, courses of action will be chosen and eventually this adapted version of the instrument will be implemented and evaluated.

Compliance can also be considered as an important part of the evaluation, because the effectiveness of the mercury instrument will also depend on whether actors comply with the mercury instrument. Representatives of the INC meetings agreed that compliance mechanism should be facilitative and should be neither punitive nor confrontational. In doing so, there should be clear links between compliance and the provisions of adequate technical and financial assistance, taking into account the principle of common but differentiated responsibilities and the differences between developing countries, Small Island developing States and countries with economies in transition. (INC3, 2011, p.22)

Further research on alternatives is considered very important by the INC representatives and is therefore included in the provisions of the mercury instrument (Minamata Convention, 2013). This means that the evaluation of the mercury instrument also entails possible adaptions of the mercury instrument. After all, in the INC meetings it is decided that if new research on new alternatives is conducted, the until then exempted mercury uses will be included in the mercury instrument (INC2, 2011, p. 18) (INC2, 2011, p. 24). In case of new research on alternatives the policy maker will again determine goals and choose action based on the new information. This new course of action will eventually be implemented and after implementation the new course of action will be evaluated.

In short, in this stream it will be determined whether the mercury instrument needs to be adapted. Whether this will actually happen is hard to say in this stage, after all the Minamata Convention is not entered into force yet and is therefore not evaluated.

## 4.3 Legitimation

In the previous chapter I explained how the mercury issue will be tackled by means of the Minamata Convention on mercury. However, the instrument to globally discontinue the use of mercury would only be effective in case the global discontinuation governance is legitimised. After all, if this global discontinuation is not legitimised and therefore is not accepted by the involved actors, the involved actors might raise resistance towards the mercury instrument and this could result in non-compliance. In addition, the global discontinuation of mercury will likely be considered more legitimate in case the use of mercury is not accepted by the involved actors. So legitimation claims by the policy makers can also be about delegitimising the mercury using socio-technical system. Therefore, I will address the legitimation pillar in this chapter. The legitimation pillar is concerned with the question why socio-technical systems are (or are not) accepted, and why the process of governing change is (or is not) accepted (Borrás & Edler, 2014, p. 34). However, the goal of this research is to contribute to a better understanding of global discontinuation governance. Therefore I will not normatively decide whether the global discontinuation governance is legitimate but I will seek for legitimation claims made by the policy maker in order to understand how the global discontinuation governance is legitimised. On top of that I will address the legitimacy issues that the policymaker(s) may have faced during the policy making process and what legitimation claims are made concerning these legitimacy issues.

### *Legitimation strategies*

In this section I will analyse the legitimation claims that are made to legitimise the discontinuation of mercury and the legitimation claims that are made to legitimise the global approach to tackle the mercury issue. Since the global aspect and the discontinuation aspect are important features in this master thesis, I will make a distinction in legitimising the global approach and in legitimising the discontinuation governance of mercury. In the end I will try to determine what the most important legitimation strategies are used in legitimising the global discontinuation governance on mercury.

As discussed in the theoretical framework, legitimation is not only about ethical norms but is also about the knowledge on the policy subject (Berger & Luckmann, 1966). In the mercury policy this means the knowledge about discontinuing the use of mercury and about the expertise and experience with global governance. Choices of globally discontinuing the use of mercury can be legitimised by the governance makers by means of knowledge claims. So legitimation claims can be made in terms of ethical norms and in terms of knowledge claims. Berger & Luckmann (1966) distinguish a framework

of four levels of legitimation: incipient legitimation, theoretical propositions in rudimentary form, explicit theories and symbolic universes. In this chapter I determined how these different levels of legitimation are used by the policy makers to legitimise the global discontinuation of mercury policy.

Governance of change aspects, in this case discontinuation aspects, of legitimation are mostly related to what extend the old socio-technical system or technologies are accepted and to what extend the discontinuation of a socio-technical system or technology is accepted (Borrás & Edler, 2014). In the mercury case, the discontinuation of mercury would probably be more legitimate when the mercury using system is not accepted by the involved actors. Since this chapter is about legitimation claims instead of whether the global discontinuation governance is considered legitimate, I will analyse the legitimation claims that are made to both on legitimising the global discontinuation governance and on delegitimising the mercury using socio-technical system.

### 6.1.1 Discontinuation governance legitimation strategies

In the mercury case, the policymakers mostly made use of normative and value-related legitimation claims and, of knowledge and expert-based legitimation claims. The normative and value-related legitimation claims are mostly about how the global community should act and how the global society should look like, and thus of the legitimation level of symbolic universes. Some normative and value-related legitimation claims are based on how an individual should behave (such as the claim that industries should take responsibility for the costs of discontinuation), which can be related to the theoretical propositions in rudimentary form legitimation level. Since the legitimation level of symbolic universes are also about legitimation claims on what is an important value for society (Berger & Luckmann, 1966), the most legitimation claims are based on the symbolic universes level. Knowledge and expert-based legitimation claims are also often used in the mercury case. These legitimation claims can be considered based on the explicit theories level. After all, the explicit theories level is about legitimation claims that are derived from experts' knowledge and experience from expert actors. So these legitimation claims are based on knowledge, both from scientific ground and from the experts who ought to have the knowledge about their expertise (Berger & Luckmann, 1966). In the mercury case the most important legitimation claims in the mercury case are either about normative or value-related claims or about knowledge and experts based claims, I will distinguish the legitimation claims accordingly. Below I will discuss the most important legitimation claims made in the discontinuation of mercury policy process.

In the negotiation meetings, an important and often used legitimation claim is that mercury use contains risks for both human health and the environment. An example of such legitimation claim concerning human health is ''lower-level mercury poisoning continued to occur'' (INC1, 2010, p.2). These claims are based on extensive research on the risks of mercury towards human health and the environment (OEWG1, 2007, p. 2) (OEWG2, 2008, p. 2) (INC1, 2010, p. 2). Thus, these legitimation claims are based on *knowledge* obtained from several research institutes. This claim also aims to *delegitimise the incumbent mercury using socio-technical system* because it implies that the incumbent socio-technical system causes the lower-level mercury poisoning. By delegitimising the mercury using socio-technical system it is more likely that the discontinuation of mercury becomes more accepted. If all involved actors agree that the mercury using socio-technical system is dangerous, they likely want to have the incumbent socio-technical system changed and they will therefore accept the discontinuation of mercury.

Relating to the previous legitimation claims on the risks of mercury, other often used legitimation claims are that both the environment and the human health should be protected (OEWG1, 2007, pp. 2-5) (OEWG2, 2008, p. 4). These legitimation claims are based on *ethical norms and values*, they

describe how the ''world'' should be, in this case protected from mercury. These two legitimation claims also aim to *legitimise the discontinuation governance of mercury*. With this claim it is argued that with the discontinuation instrument the environment and the human health is protected.

In the section on governance shaping I argued that the Minamata Bay disease is used as a symbolic event in order to shape the problem concerning mercury, to raise awareness concerning the risks of mercury, to set the mercury issue on the policy agenda and to keep the mercury issue on the policy agenda. In terms of this legitimation pillar, the Minamata Bay disease is also used as a legitimation claim. An important legitimation claim is that ''incident like that which had occurred in Japan's Bay of Minamata more than 40 years earlier must never happen again'' (INC1, 2010, p.2) (INC2, 2011, p. 3) (INC5, 2013, p. 2). Here it is tried to *delegitimise the mercury using socio-technical system* because something like the Minamata disease will happen again if the use of mercury is not discontinued. This de-legitimation claim is based on *negative norms and values* because it is about how the world should not be like, in this case vulnerable to events like the Minamata disease.

Relating to previous legitimation claims on the Minamata disease, another important legitimation claims in the INC meetings are ''the Minamata Bay disease is caused by with mercury contaminated fish'' and ''lessons from Minamata disease and Mercury Management in Japan had been distributed to all parties and observers''(INC2, 2011, p.29) (INC5, 2013, p. 2) (INC4, 2012, p. 13) (INC4, 2012, p. 20). This legitimation claim is based on scientific *knowledge* and tries to *delegitimise the mercury using socio-technical system*. Here again it is implied that something like the Minamata disease will happen again when the incumbent mercury using system remains. Another legitimation claim, based on scientific knowledge, is ''the horrible consequences of the Minamata disease are caused by mercury''. This legitimation claim also tries to delegitimise the mercury using socio-technical system. As discussed, using a legitimation strategy to delegitimise the incumbent socio-technical system may help legitimising the discontinuation of this incumbent socio-technical system (Borrás & Edler, 2014).

In the mercury case the discontinuation governance of mercury is also often legitimised by claiming that for many mercury uses there are ''safe and affordable'' alternatives available. This knowledge is based on scientific research on the availability of alternatives for several mercury uses (OEWG1, 2007, pp. 10-12) (OEWG2, 2008, p. 5)(INC1, 2010, pp.13-17). This legitimation claim based on *knowledge* tries to *legitimise the discontinuation governance*. The discontinuation of mercury would be ''easier'', and would therefore be more accepted when there are both safe and affordable alternatives available.

Relating to the previous legitimation claim on alternatives, another often used legitimation claims is that '' mercury uses will only be discontinued when safe and affordable alternatives are available'' (INC2, 2011, p. 18) (INC2, 2011, p. 24). This legitimation claim is based on a *value* since it is expressed that it is important that safe and affordable alternatives available in order to discontinue the use of mercury. This value based legitimation claim tries *to legitimise the discontinuation governance on mercury*. Again, the discontinuation governance on mercury is likely to be more accepted when the transition towards non-mercury alternatives is cheap and easier.

Further, an important legitimation claim is that, it is considered important, among the representatives in the negotiation meetings, that the public becomes more aware of the risks of mercury. This claim is backed up by the decision in the INC that the mercury instrument should contain provision on raising awareness, so the society becomes more aware and more involved in the discontinuation process of mercury( (OEWG1, 2007, p. 10) (INC1, 2010, p. 6) (INC4, 2012, p. 1). This legitimation claim is based on *norms*: about how the public should see, and should recognize the risks of, the incumbent mercury using socio-technical system. This legitimation claim tries to *delegitimise the incumbent mercury using socio-technical system* since these claims try to establish the awareness on the risks of mercury among

the public and to give them a negative perspective on mercury. An example of such legitimation claim is: ''mercury should not be used in products and production processes''. When the public is not completely aware of the risks of the mercury-using system, they may not comply with the Minamata Convention and will not get rid of the mercury-added products used in their households. Therefore, this claim tries to delegitimise the incumbent mercury using socio-technical system.

As discussed in the beginning of this chapter, according to Berger & Luckmann (1966) legitimation claims are not only about ethical norms but also about knowledge. The legitimation claims used in the INC meetings confirm that legitimation claims are based either on *ethical norms and values* or on (scientific*) knowledge and experience by experts*. Another two strategies of legitimation are present. Namely legitimation claims that *delegitimise the incumbent socio-technical system* and legitimation claims that *legitimise the discontinuation governance*. Combining the legitimation forms with the discontinuation legitimation strategies, there are four main strategies to legitimise the discontinuation governance. These discontinuation legitimation strategies are expressed in table 6.

| | **Norms/ Values claims** | **Scientific/expert claims** |
|---|---|---|
| **Delegitimising incumbent socio-technical system** | Negative norms/ values (should not) | Emphasising risks and dangers based on research/experience |
| **Legitimising discontinuation governance** | Positive norms/values (should) | Emphasising gains based on research and experience |

**Table 6. Legitimation strategies discontinuation governance**

### 6.1.2 Global governance legitimation strategies

Since global governance is an important feature in the subject of this master thesis, I will address the most important legitimation claims concerning global governance in this section. Again, the most legitimation claims regard ethical norms and values (how things/ the world should be) and scientific or expert based knowledge claims. Therefore I will make the distinction in legitimation claims accordingly. What the most important legitimation claims concerning global governance are in the mercury case are set out below.

The most often used legitimation claim concerning global governance is that ''mercury has cross-border effects''. This claim is based on *scientific research/knowledge* where is found that mercury travels a long time through the air (OEWG1, 2007) (NIMD, 2014). Because of these cross-border effects not only the mercury polluting country will be affected by the consequences of mercury. Therefore, it is l*egitimised to tackle the mercury on the global level*. On the other hand, this legitimation claim can also be addressed as delegitimising fragmented policies on mercury. These fragmented and domestic policies cannot tackle the cross-border effects while a global approach can tackle the cross-border effects.

Relating to the previous legitimation claim about the cross-border effects , another often used legitimation claim is that cross-border issues should be tackled globally (OEWG1, 2007) (OEWG2, 2008). In contrary to the previous legitimation claim, this legitimation claim is based on a *norm* since this claim regards how policy issues should be tackled. Here again, this claim *legitimises the global approach* to tackle the mercury issue because strict domestic regulation will not ensure that this country does not suffer from the mercury consequences.

Furthermore, the legitimation claim that ''the global community should help countries in economic transition to tackle the risks of mercury'' is also often used (INC1, 2010) (INC2, 2011) (INC5, 2013). This

legitimation claim is based on a *norm* on how the global community should behave and tries to *legitimise the global approach* to tackle the mercury issue. With a global approach other countries are more capable to help the countries with economics in transition by for example including financial and technical assistance in the Convention.

Another used legitimation claim is that ''it was seen as proof that stakeholders were committed to placing global cooperation ahead of national or sectoral interest'' (OEWG1, 2007). Here the global governance approach legitimised by *valuing* the importance of the Minamata Convention. When the global policy issue is valued by all the affected stakeholders, it is more likely that *global governance approach is accepted* by these stakeholders. This legitimation claim can also tackle the legitimacy issue that State Parties loose some sovereignty concerning this policy subject, since they all agree that it is more important to tackle the mercury issue on a global scale than their own national or sectoral interest (OEWG1, 2007).

In addition, the representatives of the negotiation meetings have expressed that, transparency in the negotiation meeting and of the mercury instrument is considered very important (INC1, 2010, p. 11) (INC2, 2011, p. 13) (INC3, 2011, p. 21) (INC5, 2013, p. 23). This is legitimised by the open character of the INC meetings, as discussed in previous chapter, and by the fact the reports and documents on the negotiations are publicly accessible (Minamata Convention on Mercury, 2016b). So here the legitimation claim is that the negotiations are transparent because of the accessibility and openness of negotiations. This legitimation claim is based on *knowledge*, namely knowledge on the procedure of the INC meetings, and tries to *legitimise the global governance approach*. Global governance is likely to be more accepted when global governance is considered important. However, I wonder whether all ''affected'' actors are aware of these reports and documents. The negotiation processes can be considered transparent but the puzzle that remains is if the ''public'' is aware about these documents or even the Minamata Convention. I will address this puzzle in the chapter ''discussion & recommendations.

Another often used legitimation claim is that ''the domestic and fragmented global policies are not effective enough'' (OEWG1, 2007, pp. 1-4) (OEWG2, 2008, p. 2) (INC1, 2010, p. 3). With this legitimation claim, based on *experience by expert actors*, it is tried to *delegitimise the domestic and fragmented global policy approach*. After all, it is suggested that another approach, in this case the global approach, is necessary to effectively tackle the mercury issue.

Again, the legitimation claims that are used in the INC meetings to legitimise the global governance confirm that legitimation claims are based on *ethical norms and values* or on *(scientific) knowledge and experience by experts*. Besides these two forms of legitimation claims, another two strategies of legitimation are present. Namely *legitimation claims that delegitimise the domestic governance or fragmented governance* and *legitimation claims that legitimise the global governance*. Combining the legitimation forms with the discontinuation legitimation strategies, there are four main strategies to legitimise global governance. These global governance legitimation strategies are expressed in table 7.

| | **Norms/ Values claims** | **Scientific/expert claims** |
|---|---|---|
| **Delegitimising domestic approach** | Negative norms/and values (should not) | Emphasising losses of domestic approach |
| **Legitimising global approach** | Positive norms/ and values ( should) | Emphasising profits of global approach |

**Table 7. Legitimation strategies global governance**

### *Mobilising input legitimacy*

As discussed in the theoretical framework, input legitimacy refers to the popular support that a particular social community grants a political system (a specific set of political institutions) to channel collective problem-solving for that community. Decisions are socially accepted and democratically legitimate in so far as the process to reach them has been inclusive, open to liberate considerations and directly engaging those affected by the decisions (Borrás & Edler, 2014, p. 36). Thus, input legitimacy is about the processes by which the decisions were taken (Easton, 1965). In the mercury case the community entails the whole global community because the Minamata Convention aims to discontinue the use of mercury over its entire life chain. This will affect both industries using mercury and the public that makes use of mercury containing products. In this master thesis I try to contribute to a better understanding about global discontinuation governance. Therefore I will not determine whether the extent of inclusiveness and openness of processes by which the decisions concerning the mercury instrument were taken, is legitimate. I will rather analyse whether such input legitimacy is mobilised.

A participatory approach is an inclusive way of policy making and policy analysis. This approach includes people, even though they have no expertise, to participate in the policy making process and in the policy analysis. Ideas and other contributions to the policy come from the bottom, the participants, and are communicated to the top, the decision makers. This phenomenon is also known as the bottom up approach (Stirling, 2008, p. 268). Papadopoulos & Warin (2007) provide a distinction between two approaches: a deliberative approach which focusses on the quality of debate and a participatory approach which focusses on the inclusion of as many participants as possible.

In the mercury case one participatory approach does not rule the other out. The INC tries both to include as many involved actors as possible and to improve the quality of debate by including actors with expertise and experience concerning the mercury issue.

The openness and inclusiveness of the global discontinuation of mercury policy process is ‚mobilised by the invitation to involved actors, by the INC. to join the negotiation meetings and to provide input in the policy making process. As discussed in the previous chapter there is a broad inclusiveness in the policy making process. This likely relates to the very complex mercury issue, which is about the discontinuation of mercury in its entire life chain and will likely affect many actors. Although the policy making process of the mercury issue can be considered very open, the policy makers did face some issues concerning the inclusion of involved actors. For example, some representatives question the openness of the negotiations because a broad inclusiveness would likely increase the workload of the Secretariat of INC, while others were of the opinion that the negotiations should even be more inclusive and open (OEWG1, 2007, p.16). Another point of concern regarding the inclusiveness of the negotiation processes was that many countries are found unable to participate fully in the international treaty framework due to “the lack of the necessary expertise and resources, especially when national legislation is needed to give force to international instruments” (United Nations, 2012, p. p1). This concern was tackled by providing these countries with both financial and technical assistance and by assigning the involved state parties to exchange information about discontinuation (the use of) mercury (Minamata Convention, 2013). Therefore, the openness and the inclusiveness in the decision-making process, in this case in the INC meetings, is mobilised.

Stirling (2008) argues that an expert-based approach is an exclusive way of policy making and policy analysis. It excludes people from participation in the policy making process or policy analysis and leaves this task exclusively to the people with expertise. Ideas and other decisions are taken by the expert and decision maker (the top), and are implemented and communicated to the citizens or regulates (the bottom) (Stirling, 2008, p. 267). The expert is seen as the agent who has the knowledge about the policy problem and therefore the power over the policy problem (Kothari, 2005).

In the mercury case however, it appears that involving expert agents in the policy making process does not exclude other actors from participation. As discussed above, the policy making process of the discontinuation of mercury has a broad inclusiveness. Besides this inclusion, many expert actors are included in the negotiations. For example, in the INC meetings is advocated for the inclusion of regional centres and UNEP regional offices because they are familiar with the current conditions and needs in the region. To determine realistic goals, the advisory role of expert actors is considered very important (INC1, 2010, p.5). Another example is the participation of the Secretariats of other multilateral agreements who have experience with establishing a globally legally binding instrument. In addition, as discussed in the previous chapter, several representatives already have experience with the discontinuation of mercury. Their experience is used as learning processes for the establishment of the global legally binding instrument to discontinue the use of mercury.

In short, in the mercury case a more hybrid form of participatory approach and experts-based approach is mobilised. The broad inclusion is probably mobilised because a lot of actors will be affected by the mercury instrument. The entire life chain approach and the global approach will affect a broad area and many actors. The involvement of expert agent is mobilised because the uncertainty and disagreement in the INC meetings on how to tackle the mercury issue.

In short, involved actors can provide input in the decision making and expert agent can share their experience and expertise in the decision making process. Furthermore, legitimacy is mobilised in the INC meetings. Here again, the mercury case shows that legitimation is not only about ethical norms (affected actors should be involved in the decision making process) but also about the role of knowledge (expert actors have knowledge on the best way forward to tackle the mercury issue). This inclusiveness and the involvement of expert actors tries to legitimise both the global governance approach and the discontinuation governance.

### *Mobilising throughput legitimacy*

In contrary to input legitimacy, which is about the openness, inclusiveness and deliberateness of processes in which decisions are taken, throughput legitimacy is about how decisions are made and whether they comply with the norms of decision making (Bekkers, 2007, p. 372) Three components of 'throughput legitimacy' can be distinguished: legality, transparency and quality of the decision-making process (Risse & Kleine, 2007). Again, because the thesis subject is about providing a better understanding concerning global discontinuation governance, I will not determine whether there the throughput processes can be considered legitimate but I will rather analyse whether the throughput legitimacy is mobilised. In comparison with the previous section on global governance legitimation strategies, there is certain overlap in those legitimation claims and the components of throughput legitimacy. However, in this section I will not only seek for legitimacy claims but I will also analyse whether throughput legitimacy is mobilised in the mercury case.

The first component of throughput legitimacy is legality (Risse & Kleine, 2007). Legality is about power that can be considered legitimate if it is exercised and acquired in accordance with established rules (Beetham, 1991, p. 16) the most important rules are derived from the Vienna Convention on the law of treaties, which is also called the treaty on treaties. This Convention established a legal ground for developing treaties (United Nations, 1969). Most importantly the Vienna Convention states that the rule of law would be enhanced by the signatory and the ratification of treaties and conventions by parties (United Nations, 1969). Thus, the legality part of throughput legitimacy is mobilised.

The second component of throughput legitimacy is about transparency (Risse & Kleine, 2007). This component I already discussed in the section on legitimation strategies on global governance. Transparency is mobilised by the open character of the INC meetings and by the public accessibility of the reports and documents on the negotiations (Minamata Convention on Mercury, 2016b). My puzzle earlier was whether all ''affected'' actors are aware of these reports and documents. The negotiation processes can be considered transparent but the puzzle that remains whether the ''public'' is aware of these documents or even the Minamata Convention. Thus, transparency is tried to be mobilised in the mercury case. However, research concerning this transparency issue could shed more light on whether the mercury policy (process) is actually transparent for the whole global community.

The third component of throughput legitimacy regards the quality of debate (Risse & Kleine, 2007). Earlier in this chapter I discussed the quantity of the debate (the amount of inclusiveness) and I shortly addressed the quality of the debate on the mercury policy. In the mercury case, the quality of debate is mobilised and therefore the global discontinuation governance is legitimised. This is based on several reasons. First of all, as discussed in previous chapter, the discontinuation of mercury is based on several learning processes, in which experience contributes to a better understanding on discontinuing mercury. Secondly, the inclusion of expert actors in the negotiation process contribute to the legitimation of the policy to discontinue the use of mercury. By including these expert actors in the negotiation process the policy makers imply that the establishment of the mercury policy is based on the knowledge about both the policy problem and on the best way forward to tackle the policy problem.

However, these knowledge claims might be undermined by certain knowledge gaps that come to light during the negotiations processes. For example, it is stated that knowledge is missing regarding a number of important topics, including how deal with surplus mercury resulting from restrictions or bans on mercury use or trade and what would be the cost of the transition away from mercury in product and processes. In addition representatives argued that more and better technical knowledge was needed in order to storage mercury effectively. Also there was a need for more research on alternatives for mercury uses, since not all mercury uses can be replaced by an alternative (INC1, 2010, pp.13-17) (INC2, 2011, p. 18) (INC2, 2011, p. 24). These knowledge gaps may form a threat to the claim that mercury instruments is developed based on expert knowledge and experience. In the mercury case, it is tried to legitimise these threats by introducing provisions on further research and information exchange. This entails that if these knowledge gaps are solved, the mercury policy will be adapted based on new information.

Besides these three components, throughput legitimacy can also be the acceptance of the actual instrument because in the OEWG meetings there was a discussion on what is the best way forward to tackle the mercury issue. As discussed in the previous chapter, the essence of the debate was whether the mercury issue should be tackled with voluntary measures or with a legally binding instrument. So mean consensus was not established at first. However, acceptance on the means (or instrument) was established in a later stage, where is established that the mercury issue should be tackled with a legally binding instrument. The acceptance of this instrument is mobilised since the involved State Parties had the right to vote and therefore expressed consent with the instrument (INC1, 2010, p.25) (INC3, 2011, p. 22) (INC5, 2013, p. 52) (INC6, 2014, p. 60). The acceptance of the global legally binding instrument on mercury is mobilised by introducing national implementation plans, providing financial and technical assistance (for implementation) for parties with economies in transition and providing implementation workshops for all state parties (Minamata Convention on Mercury, 2016a).

Aside from some critical notes, the throughput legitimacy is mobilised. In terms of legality, transparency, quality of debate and the instrument its self.

Altogether, the global discontinuation governance on mercury is legitimised by several legitimation claims and mobilising both input legitimacy and output legitimacy. However in this case study the global discontinuation governance on mercury is legitimised, this does not mean that all legitimacy issues are present in the OEWG meetings and the INC meetings. For example, in both the OEWG meetings and the INC meetings there is no knowledge about why non-parties have chosen not to participate and sign the Minamata Convention. Perhaps they did not consider the Minamata Convention, and its decision making processes, legitimate. This critical side note and puzzle maybe interesting to address in a further research.

## 4.4 Linking the three pillars and the role of governance

In both the instrumentation dimension and the governance shaping dimension, I addressed different parts of the instrumentation (policy making streams) and the governance shaping as streams. In both sections I argued that the streams are interlinked and sometimes interact with each other. This is also the case for the three-pillared approach. As discussed before I used the three-pillared approach as a clear structure for this master project. Although I discussed the three pillars separately, this does not mean that these pillars do not interact with each other.

Therefore I will address the three pillars of governance of change in this overarching chapter. In this chapter I will link these three pillars based on my findings of each pillar. On top of that I will address the role of governance more explicitly in this chapter. After all, governance is an important part of this thesis subject: the global discontinuation ‘’governance’’.

### *Linking the pillars*

The governance shaping dimension, the instrumentation dimension and the legitimation dimension do interact with each other in certain areas. In this section I will explain how these three dimension are linked.

First of all, awareness raising is an important policy subject in all the three pillars. In the governance shaping dimension, the emergence of a social problem regards the recognition of a problem by the society. It is argued that the public needs to be aware of the risks of mercury so a social problem can emergence and can eventually be translated into a policy problem. What is striking is that in the mercury case, not the whole global community is aware of the risks of mercury. In the mercury case public awareness raising, and therefore problem recognition, is parallel to the implementation process. However, other policy theories argue that this public recognition takes place even before the input stream. In all the INC meetings public awareness is considered an important part to establish compliance to the eventual mercury instrument (INC1, 2010, p. 19-20) (INC2, 2011, p.29) (INC3, 2011, p.23) (INC 4, 2012, p.19-20) (INC 5, 2013, p.30). Therefore, important provisions on awareness raising are included in the mercury instrument (Minamata Convention, 2023). This means that awareness raising or sense making concerning the mercury issue is also tackled in the instrumentation dimension and not merely in the governance shaping dimension. Therefore sense making or awareness raising processes do not only happen in the governance shaping dimension, but can be considered as an ongoing process. In addition, raising awareness and sense making concerning the mercury issue also is important for legitimising the mercury instrument. After all, the policy makers try to legitimise the global discontinuation

governance of mercury by delegitimising the incumbent mercury-using socio-technical system. This de-legitimation can only happen if the involved actors, and the public, is aware of the risks of mercury. If the public is aware of those risks, the incumbent mercury-using socio-technical system is likely to be less accepted.

Furthermore, problem attention plays an important role in the governance shaping dimension but problem attention can also be considered important in the instrumentation dimension and for legitimising the global discontinuation governance. In the governance shaping dimension, the mercury problem attention can play a role in setting the mercury issue on the global policy agenda. If a problem gets a lot of attention, the capable agent is more likely to address that problem and will more like set this problem on the (global) policy agenda. Problem attention is also important in the instrumentation stage because it is important to keep the (mercury) policy issue on the global policy agenda. If the problem attention fades away after the problem is set on the policy agenda, the governance instrument and its implementation may not be supported by the involved actors. Which brings me to the importance of problem attention in terms of legitimation. If the public gives a lot of attention to the mercury issue, the global discontinuation is likely to be more accepted by the public.

Adding to the previous statement on problem attention, the symbolic role of the Minamata disease is used in all the three pillars in the mercury case. As discussed in the section on the governance shaping dimension, the Minamata Bay disease can be considered as a symbolic device in order to shape the mercury issue and to set the mercury issue on the global policy agenda. The horrific consequences of the Minamata disease can function as an example of the risks of mercury and can therefore pace up the urgency to take global action towards the use of mercury. Besides using the Minamata disease as an agenda setting mechanism, the example of this horrific event is also used during the entire INC meetings, probably to keep the mercury issue on the global policy agenda. This means that during the instrumentation dimension the symbolic role of the Minamata disease is used to justify the instrumentation and the implementation of the global instrument that will discontinue mercury over its entire life chain. Thus, the Minamata disease is also used to legitimise the global discontinuation governance of mercury. After all, several legitimation claims about the Minamata disease are made in the INC meetings to legitimise the global discontinuation governance of mercury.

Moreover, knowledge plays an important role in all the three pillars. In the governance shaping dimension the knowledge on the risks of the to be discontinued technology or sociotechnical system, in this case mercury, is important to set the issue on the (global) policy agenda. If there is no knowledge of the risks of the to be discontinued technology or socio-technical system, the need for discontinuation would not be clear. In the governance dimension I also discussed that knowledge on alternatives is a necessary opportunity to set the discontinuation (of mercury) on the (global) policy agenda. Without these alternatives it would be difficult to discontinue certain technologies or socio-technical system, especially in the mercury case. After all, there was decided that if there are no alternatives available for certain mercury uses, an exemption will be formulated (INC2, 2011, p. 18) (INC2, 2011, p. 24). In the instrumentation dimension the role of knowledge is important because of the ‘’know-how’’ of discontinuing certain technologies or socio-technical systems. The instrumentation of the Minamata Convention is based on several knowledge claims made by expert actors and is based on several learning processes based on experience. In the legitimation pillar the role of knowledge is often used in legitimation claims. The mercury case shows that one of the main legitimation strategies for legitimising discontinuation governance or legitimising global governance are by means of scientific or expert-based claims. So knowledge is also used to legitimise the global discontinuation governance.

Going back to how the goals of the instrument are being determined, I believe there is some overlap between the instrumentation dimension and the governance dimension. According to the theory the

goals of the instrument are determined in the instrumentation dimension. However, the goals can be formed earlier in the policy making process. In the policy stream, several policy ideas are already presented and the problem definition in the problem stream, a discontinuation governance shaping stream, does indirectly propose a certain goal.

Last, the legitimation claims are not made in a separate ''meeting'' on legitimation but these claims are made directly or indirectly in the governance shaping dimension and the instrumentation dimension.

In this chapter I showed that the (global discontinuation) policy making process does not occur linear and in separate stages but that the different dimension of policy making are linked which each other. In addition, I have addressed the main examples of the links between the three pillars.

### *With the role of governance*

Now, I will briefly address the role of governance in the mercury case. I already shortly addressed the participation of involved actors in the negotiation discourse in the instrumentation dimension chapter. In this section I will also address other policy accounts than the negotiation discourse. According to Colebatch (2009) policy-making can be analysed trough different accounts of policy. He distinguishes three separate but possibly interrelated policy accounts.

The first account is the dominant authoritative choice account which is characterized by processes of choice by authorized decision-makers (the government, who select courses of action which will maximize the values they hold, and transmit these to subordinate officials to implement (Colebatch, 2009, p. 24). In the mercury case this account is present since only State Parties, in other words governmental parties, have the right to vote (INC1, 2010, p.25) (INC3, 2011, p. 22) (INC5, 2013, p. 52) (INC6, 2014, p. 60). Thus, the governmental parties make the actual decisions in the mercury policy process.

The second account is the structured interaction account. This account recognizes that policy making is likely to involve participants in different organizations and is less about the line of hierarchical authority (Colebatch, 2009, p. 26). As discussed earlier, a lot of participants are involved in negotiation meetings. Besides state parties, several experts groups and NGO's are represented in the negotiations. This form of interaction, negotiation, can be seen as the main form of discourse in the mercury policy process because the preparation of the global mercury instrument is fully conducted by negotiations. The role of the participants in the INC meetings is mainly to provide input in the decision-making process. Participants besides state parties do not have the right to vote and therefore cannot make an actual decision (INC1, 2010, p.25) (INC3, 2011, p. 22) (INC5, 2013, p. 52) (INC6, 2014, p. 60).

The third account is social construction which sees policy making as collective puzzling. Policy makers search for a shared understanding and values regarding the problem and appropriate action by using policy as a discourse. This account recognizes the importance of mobilizing expertise in the policy-making process (Colebatch, 2009, pp. 29-35). In the mercury case a lot of expert representatives are included in the policy negotiations. These experts have provided the negotiations with expertise and clarifications on the mercury subject. Moreover, as discussed in the section on learning processes in the instrumentation dimension chapter, several actors have shared their experience with earlier mercury policy. This means that in the INC meetings lessons could be learned from earlier and fragmented mercury policies. The inclusion of experts and making use of several learning processes have led to a better understanding on how to tackle the mercury issue.

# 5 Conclusions & recommendations

## 5.1 Conclusions

In this chapter I will answer the central question of this research: **How is the global discontinuation of mercury governed and what does this means for the concept of global discontinuation governance?** In order to do so, I will address the three sub question of my thesis and discuss my most important finding. While answering my research questions I will keep in mind the main goal of this research: contributing to a better understanding of global discontinuation governance

*Governance shaping dimension*

I will start by addressing the governance shaping dimension which relates to first pillar by Borrás and Edler (2014). The most important question in this section is: ***what and who has driven the deliberate global discontinuation governance of mercury?***

In table 8 I have provided an overview of the capable and social agents that have played an important role in shaping the global governance of discontinuation and I explained what their role was in this governance shaping process.

| Who? | Role actor in shaping governance |
|---|---|
| **Governing council UNEP** | - Main policy entrepreneur<br>- Mandated OEWG and INC<br>- Capable to reach and involve many actors because of status UN |
| **Involved stakeholders (State actors, NGO's etc.)** | - Interplay actors: try to shape and modify each other's behaviour (global dance metaphor) |
| **WHO and other research institutes** | - Conducting research which makes actors aware of the risks, present alternatives to mercury uses |

**Table 8. Who has driven the global discontinuation governance of mercury?**

The Governing Council of UNEP can be addressed as the main policy entrepreneur, which is an important feature in the *politics streams*. UNEP has mandated both the OEWG to find out what would be the best way forward to tackle the mercury issue and the INC to prepare the global legally binding instrument to tackle the mercury issue. UNEP can be considered as a capable agent since it is able to reach and involve many stakeholders because of the important status of the United Nations. Other involved stakeholders have played an important role in shaping the global discontinuation governance since the interplay of actors results in the shaping and modifying each other's behaviour. Also the World Health Organisation and other important research institutes contribute to the global discontinuation governance shaping process by conducting important research towards the risks of mercury which lead to developments and awareness in the *problems stream* and by conducting research to alternatives to mercury uses which are negotiated in the *policy stream.*

Borrás & Edler (2014) argue that capable agents are important in shaping the governance of change. That it is not only the policy entrepreneur that drives the governance of change but that social agents are also capable influence behaviour and therefore are capable to shape governance. Capable agents also play an important role in shaping the deliberate act of discontinuation governance. A policy entrepreneur may initiate the (global) discontinuation governance but expert actors can shape the mode of governance by means of information and the interplay between actors can shape the governance of discontinuation by means of learning, negotiating and sense-making. Thus, for the concept of (global) discontinuation governance this means that the governance shaping process will be influenced by capable agents, each with their own capabilities.

The ''what'' has driven the discontinuation governance on mercury can be explained by the discontinuation governance stream model, developed by the discontinuation governance research consortium (Stegmaier, et al., 2016). In my analysis I showed that the developments in the several discontinuation governance streams has led to the global discontinuation governance of mercury. However, because I only analyse the negotiation meetings of the development of the Minamata Convention, I was only able to give some implications in the development of the *historical-cultural stream, the socio-economic stream and the socio-technical stream.*

Still, I did identify important processes that have led to developments in *the problem stream, the policy stream and the politics stream*. In particular, the global governance shaping processes have led to the global discontinuation of mercury by means of the Minamata Convention:

- *Framing the mercury issue by means of knowledge*
- *Framing the mercury issue as a cross-border issue*
- *Framing the mercury issue as a collective necessity*
- *Framing the mercury issue into a priority issue*

This governance shaping processes can also be addressed as motives for the capable agents, as discussed above, to undertake the deliberate act of discontinuation governance on mercury. Also opportunity structures are important for the capable agents to take action. In the mercury case the most important opportunities were *the availability of alternatives to the mercury uses* and *the willingness among the actors.*

*Instrumentation dimension*

Secondly, the instrumentation pillar (Borrás & Edler, 2014) says a lot about how the global discontinuation of mercury is governed. The most important question in the instrumentation dimension is: ***How is the global discontinuation of mercury governed and by which means?***

Policymaking is about decision making, negotiation and making sense of the policy issue together and these modes of policy making can be addressed as policy accounts (Colebatch, 2009). This also appeared to be true in act of global discontinuation policy making.

- The first account is the dominant authoritative choice account which is characterized by processes of choice by authorized decision-makers (Colebatch, 2009). In terms of global discontinuation governance this entails the legal act of Convention making in which only State parties have the right to vote and therefore are able to make actual decisions.

- The second account is structured interaction account. This account recognizes that policy making is likely to involve participants in different organizations and is less about the line of hierarchical authority. The work of policy participants is concerned with identifying other players and negotiating with them as it is concerned with selecting and pursuing goals (Colebatch, 2009, p. 26). This account addressed the main discourse in global discontinuation governance, namely the negotiations. In the mercury case, this account can also be interpreted by means of the global dance metaphor by Smith (2006). At first there was a disagreement, among the involved actors, on the best way forward to tackle the mercury issue. Some participants urged for voluntary measures while other argued that a legally binding instrument would be more effective. There was also a discussion on using either a negative-list approach or a positive list approach. In the end, there is reached consensus on the means, and metaphorically speaking: the willingness of the involved actors to dance on the same music increased. Thus, this account is about negotiations on instrumentation strategies. In the mercury case, instrumentation strategies with regard to discontinuation- and policy issues are negotiated by the (broad) involved actors.

In the table 9 and 10 I represented the policy issues that the policy makers dealt with, and which instrumentation strategies are eventually negotiated.

| Policy issue | Instrumentation strategy in Minamata Convention |
|---|---|
| How to discontinue? (1) | Positive list approach |
| How to discontinue? (2) | Several discontinuation strategies |
| Imbedded uses cannot be banned overnight | Transition periods |
| Not all mercury aspects can be fully discontinued: **After care** (Stegmaier, Kuhlmann, & Visser, 2014) | *After care* for:<br>- Non-replaceable uses (will be exempted)<br>- Dealing with contaminated sites (identifying and assessing)<br>- Environmentally safe storage (set up guidelines to deal with this issue) |

**Table 9. Dealing with discontinuation policy issues in the mercury case**

| Policy issue | Instrumentation strategy in Minamata Convention |
|---|---|
| How to establish such a comprehensive approach? | - Legal framework (Treaty Handbook) *meta governance stream*<br>- Learning processes from other multilateral treaties and from fragmented policies (Learning from experience) |
| Dealing with diverse national circumstances of State Parties | - National implementation plans<br>- Ratification process |
| Dealing with countries that are less capable in discontinuing mercury | Offering financial and technical assistance |
| Who is responsible for achieving objects instrument? | - ''polluter pays'' principle<br>- Principle of *''common but differentiated responsibilities''* (*meta-governance* stream) |

**Table 10. Dealing with global policy issues in the mercury case**

- The third account is social construction which sees policy making as collective puzzling. Here policy makers search for shared understanding and values about the problem and appropriate action by using policy as a discourse. This account recognizes the importance of mobilizing expertise in the policy-making process (Colebatch, 2009, pp. 29-35). In terms of discontinuation governance, in this account there is made use of several learning processes and of the input of expert actors to make sense of dealing with the deliberate act of global discontinuation governance.

In addition, the global discontinuation governance policy making process entails the development of several policy stream, namely determining goals, choosing course of action, implementing course of action and evaluate, and possibly adapt, the policy. These streams are based on the policy making cycle stage by Colebatch (2009). In the global instrumentation of discontinuing the use of mercury follows mostly the same policy making as ''normal'' policy making processes.

However, because of the discontinuation- and global aspect of the mercury instrumentation some aspects is missing in the normal policy-making theory. Because of one discontinuation policy issue solution and because of two global policy issue solution, as discussed in the previous slides, an extra ''stream occurs''. Namely because of the time actors need to develop their national implementation plans (global aspect), because of the process of ratification (global aspect) and because of the transition periods (discontinuation aspect), a certain interim period occurs. In my thesis I call it the ''preparation stream''. This stream is about action that needs to be undertaken after the course of action is decided and before the course of action will get implemented. Thus, global discontinuation governance policy making deals with an additional policy making stream: *the preparation stream.*

*Legitimation dimension*

Last, the legitimation dimension gives good insights to what it means to globally govern the discontinuation of a socio-technical system. The most important question in this pillar is**: *Which claims are made in order to make the global discontinuation governance on mercury acceptable?***

Bercker & Luckmann (1996) argue that legitimation claims can be about ethical norms or about knowledge claims. In the global discontinuation governance on mercury case, involved actors also made use of these two types of legitimation claims. In addition, the policy makers also made use other types of legitimation strategies for legitimising the discontinuation governance and for legitimising the global governance approach. For legitimising the discontinuation governance the policy makers made claims to legitimise the discontinuation and claims to delegitimise the mercury using technical system. For legitimising the global governance approach the policy makers made claims to legitimise the global governance approach but also made claims to delegitimise the domestic governance approach. Thus, in terms of global discontinuation governance, there are eight main legitimation strategies to make the global discontinuation on mercury acceptable, namely:

- Knowledge claims that legitimise the discontinuation
- Knowledge claim that delegitimise the (mercury using) incumbent socio-technical system
- Ethical norms or values claims that legitimise the discontinuation
- Ethical norms or values claims that delegitimise the (mercury using) incumbent socio-technical system.

- Knowledge claims that legitimise the global governance approach
- Knowledge claims that delegitimise the domestic governance approach
- Ethical norms or values claims legitimise the global governance approach
- Ethical norms or values claims that delegitimise the domestic governance approach

Thus legitimation in terms of global discontinuation governance is also about de-legitimation instead of merely legitimation. It is plausible that these legitimation strategies are also be used in other (global) discontinuation cases.

So, what do these findings mean in terms of the central question of this thesis: **How is the global discontinuation of mercury governed and what does this means for the concept of global discontinuation governance?**

I have argued that the act of global discontinuation governance is shaped by means of several capable agents and the interaction between them. They play an important role is the development of the discontinuation governance streams. These developments and processes of these streams are also shaping the deliberate act of global discontinuation governance.

The actual act of global discontinuation policy making is also about decision making, negotiation and making sense of the policy issue together (Colebatch, 2009). The discontinuation on the UN level makes that the policy process has a participative and an interactive nature. The global aspects and discontinuation aspect imply that an extra stream in the (global) discontinuation policy making processes occurs, namely the preparation stream.

In order to make the global discontinuation governance (of mercury) acceptable, policy makers try to legitimise the discontinuation and delegitimise the incumbent (mercury using) socio-technical system and they try to legitimise the global governance approach and delegitimise the domestic governance approach. Thus, legitimation in terms of global discontinuation governance is both about ''legitimation'' and about ''de-legitimation''.

## 5.2. Global discontinuation governance in the context of policy science

In this section I will discuss what my empirical findings mean in the broader context of policy science.

The results from this thesis confirms that the venue and the role of governance is changing. Tatenhove & Arts (2014) argue that there is both a horizontal shift in governance and a vertical shift in governance observable (Tatenhove van & Arts, 2014, p. 340). Also derived from the mercury case it seems that the policy making process is more and more about co-participation in which non-governmental actors shape and influence the policy making process (horizontal shift). In addition, there is a shift towards transnationalism and supranational (vertical shift). Among the mercury issue, more and more and more policy issues are addressed on a higher level of governance.

This horizontal shift is also observable in studies on global governance. As discussed in the state of the art section, Smith (2006) argues that the involved actors in the global ''dance'' seek to shift decisions based on their own preferences, in a complex routine of processes and practices. By means of interaction in the participatory environment of the UN, these actors participate in global policy mak-

ing process (Smith C. B., 2006). The negotiations of the Minamata Convention were also highly inclusive, which matches with the global dance theory. While the global dance theory by Smith (2006) nicely describes the complexity of the public-and private interaction, it does not recognise the importance of learning processes in the global policy making process. From the mercury case it became clear that the interactions between the involved stakeholders not only try to shape the global policy on mercury towards their own preferences but the interaction also led to several learning processes. Because of the global character, many actors already have dealt with the mercury issue on a domestic scale. By means of the public-and private interaction the stakeholders have shared their experience, learned from each other and other cases and have therefore tried to shape and influence the policy making processes. Thus, learning processes should not be under estimated in global governance studies.

In the context of discontinuation governance the role of governance is also changing. Innovation is often linked by innovation by companies of businesses. However, in the discontinuation governance of mercury case, governance can also be linked with innovation. After all, the Minamata Convention, established by complex processes of public-private interaction, aims to innovate the mercury using socio-technical system by discontinuing the use of mercury in its entire life chain and therefore to protect human health and the environment.

The role of governance is also very important in discontinuation cases. As discussed in the section on the state of the art, existing research does focus on system innovation and regime change but the role of deliberate governance is not specifically addressed (Kemp, Schot, & Hoogma, 1998) (Geels F. W., 2002) (Geels & Schot, 2007). However, the role of governance is more and more important with regard to regimes or socio-technical system innovation. There is a trend in governing harmful uses, technologies or socio-technical systems. For example the energy transition, which should not only focus on the renewable energies who can replace the undesirable fossil fuels but should also acknowledge the role of deliberate discontinuation governance of the fossil fuel using regime in the energy transition.

In addition, these system innovation theories argue that an incumbent socio-technical system can be pressured by means of landscape developments (Geels F. W., 2002). Here should also be recognised that symbolic devices can also be an important part of landscape pressures. In the mercury case, the Minamata Bay disease is used as a symbolic device: to shape the problem, to set and keep the mercury issue on the (global) policy agenda and to legitimise the global discontinuation governance. Therefore, the role of a symbolic device should not be underestimated in the discontinuation policy making processes.

Existing studies already criticise models of the policy making process, such as the policy cycle, because of the assumption that the policy making process models have a linear character. For example, the primary critique is on the analytical differentiation of the policy process into separate and discrete stages and sequences. Clear cut separation between policy formation and implementation is hardly reflecting real-world policy-making (Fischer, Miller , & Sidney, 2007, pp. 55-56). My explorative study on the development of the Minamata Convention also proves that the policy making process is not linear and can't be cut into separate and independent policy stages. In my thesis I have argued that the policy stages should be addressed as streams and that they often interact with each other.

In many studies legitimacy is addressed by arguing that it entails the popular support that the governance system, or the governance processes by which the decisions are taken will gain from the public (Beetham, 1991) (Papadopoulos & Warin, 2007) (Gilley, 2009). In addition, Berger & Luckmann (1966) address the importance legitimation claims that are made in order to legitimise the governance system, the governance processes and the governance outcomes. However, based on the results of my thesis, legitimacy and legitimation also entails the legitimacy and the legitimation of a socio-technical system. In the mercury case, the global discontinuation governance on mercury is legitimised by both legitimising the mercury free socio-technical system and by delegitimising the mercury using socio-technical system.

Now I have discussed the results of my thesis in the broader policy science context, I will address my results from a more critical point of view in the next chapter. I will discuss what is missing in my analysis and what is important to address in further research to give a better understanding of the concept global discontinuation governance. Based on this discussion I will give recommendations for further research.

## 5.3 recommendations

In this section I will discuss some puzzling empirical findings from my research and provide this puzzle with a recommendation. Furthermore, I will make some suggestions for further research which seem interesting to me because of my findings of this case study.

In both the OEWG meetings and the INC meetings there is no knowledge about why non-parties haven chosen not to participate in the negotiations on the global mercury instrument (and not to sign the Minamata Convention). Maybe they did not consider the Minamata Convention, and its decision making processes, legitimate or maybe the cost issue was the reason for those non-parties not to participate. Another reason could be that the discontinuation governance streams in these countries where not enough developed to drive them to (jointly) undertake global discontinuation governance measures. Further research can address these questions and could reveal why non-parties do not participate in the (development) of the Minamata Convention.

Additionally, in my empirical findings it appeared that there is still a certain lack of awareness among the (global) public. However, in the OEWG and the INC meetings it did not become clear why there is a lack of awareness concerning the mercury issue and what the extend of (non) awareness among the public concerning the mercury issue is. Therefore I think it is interesting to address this awareness issue more in depth in further research.

The lack of awareness issue and the importance of the provision on awareness raising in the Minamata Convention also raises the question whether the public is aware about the available documents on the (establishment) of the global legally binding instrument of mercury or if they are even aware of the Minamata Convention. In my thesis I addressed the transparency issue, here I concluded that many report and documents on negotiations are publicly accessible and available. But the existence of these documents does not mean that the public is aware of these documents. So maybe this puzzle can be addressed in a possible further research on the awareness issue.

In the INC meetings there was a discussion on whether the national implementation plans should be mandatory. The striking part was that the involved actors earlier agreed that compliance should be facilitative and not punitive. Therefore I wonder what ‘’mandatory’’ means if non-compliance has no punitive effects. Further research can analyse the concept of compliance and the amount of compliance of the global legally binding instrument to discontinue the use of mercury (the Minamata Convention).

The discourse on the Minamata Bay disease gives some implications on the *historical-cultural* stream, especially in Japan, but should mainly be addressed as a symbolic device in the governance shaping process. However it is hard to say whether this event has triggered the development of discontinuation streams in other countries. Further research could reveal whether the Minamata Bay disease has a bigger role in the *historical-cultural* context. I would recommend to conduct further research by means of the research approach used in the DDT case: to compare the patterns of the development of the discontinuation governance streams. Here, the focus should not be only on the governance processes derived from the negotiation meetings.

Last, the absence of alternatives to some mercury uses is still an issue in the mercury case but the development patterns of the alternatives did not became clear in the negotiation meetings. In contrary to the quit similar DDT case, in that case alternative pesticides where already developed, mainly by market initiatives, before the use of DDT was banned by means of the Stockholm Convention (Levain, et al., 2016). However, in other discontinuation cases, for example the nuclear energy case, de-alignment can be decoupled from re-alignment. ‘’*While power plants in theory may be substituted by all kinds of non-nuclear energy generating systems, the grid infrastructure in Germany, in particular, is not yet ready to distribute large amounts of renewable energy across the country*’’ (Stegmaier, et al., p.3, 2016). In order, to get complete insight in the development of the alternatives pathway of the several mercury uses, further research should be conducted and could reveal what developments have took place in the *historical-cultural stream, the socio-economic stream* and the *socio-technical stream.*

## 5.4 Afterword

Although my research still has some puzzles, which can be addressed in further research, I hope that this explorative case study has contributed in helping understand the phenomenon of global discontinuation governance.

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