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Towards Bridging the Knowledge Gap between Policy
Analysis and EU Governance for Sustainable
Development”**

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Dedicated to my mother.

Content

LIST OF FIGURES.....	6
LIST OF TABLES.....	7
LIST OF ACRONYMS AND ABBREVIATIONS	8
 1. INTRODUCTION	 9
1.1. RESEARCH PROBLEM.....	9
1.2. EPISTEMOLOGICAL FRAME AND RESEARCH QUESTIONS	12
1.3. STATE OF THE SCIENTIFIC DISCOURSE	14
1.4. RESEARCH PURPOSE AND GOALS	19
1.5. SCOPE OF THE THESIS.....	20
1.6. RESEARCH METHODOLOGICAL FRAME	25
1.7. STRUCTURE OF THE THESIS	27
 2. PERCEIVING POLICYMAKING IN SUSTAINABLE DEVELOPMENT PERSPECTIVE: COGNITIVE CHALLENGES AND BARRIERS	 30
2.1. RELEVANCE OF THE SUSTAINABLE DEVELOPMENT CONCEPT FOR POLICYMAKING	32
2.1.1. <i>The Implementation Gap in the European Union.....</i>	33
2.1.2. <i>Pluralist and Dialogue-Based Nature of the Sustainable Development Concept.....</i>	37
2.1.3. <i>Need for Sustainability Shift in Political Thinking</i>	38
2.1.4. <i>Potential of the Sustainable Development Concept to Guide Political Action.....</i>	39
2.2. COGNITIVE BARRIERS TO ACCOUNTING FOR DISCURSIVE NATURE OF THE SUSTAINABLE DEVELOPMENT CONCEPT	41
2.2.1. <i>Dynamic Nature of the Sustainable Development Concept.....</i>	42
2.2.2. <i>Competing Development Paradigms in Disputes for Better Life.....</i>	46
2.2.3. <i>Conflicting Sustainability Paradigms and the Interpretation Gap.....</i>	50
2.3. COGNITIVE BARRIERS TO SUSTAINABILITY SHIFT IN POLITICAL THINKING	54
2.3.1. <i>Mind-shift in Temporal Dimension.....</i>	61
2.3.2. <i>Mind-shift in Spatial Dimension.....</i>	63
2.3.3. <i>Mind-Shift in Fact Dimension</i>	66
2.3.4. <i>Mind-shift in Dynamic Dimension.....</i>	69
2.3.5. <i>Mind-shift in Power Dimension.....</i>	73
2.3.6. <i>Mind-shift in Ethical Dimension.....</i>	76
 3. OBSERVING GLOBAL CHANGE IN SUSTAINABLE DEVELOPMENT PERSPECTIVE: COGNITIVE CHALLENGES AND CHANCES	 79
3.1. RELEVANCE OF OBSERVING GLOBAL CHANGE	80
3.1.1. <i>Global Change as Structural Change in the Global Governance Patterns.....</i>	80
3.1.2. <i>Growing Complexity and Dynamics of Global Change.....</i>	82
3.2. EPISTEMOLOGICAL FOUNDATIONS OF FRAMING GLOBAL CHANGE.....	83
3.2.1. <i>Meta-Physic Foundations of Political Thinking on Global Change.....</i>	84
3.2.2. <i>Paradigmatic Nature of Political Thinking on Global Change.....</i>	86
3.2.3. <i>Old versus New Paradigm Thinking on Global Change.....</i>	88
3.2.4. <i>Theories of International Relations as Reference Frames.....</i>	91
3.3. GLOBAL CHANGE IN GLOBAL GOVERNANCE THEORY PERSPECTIVE	93
3.3.1. <i>Accelerating Pace of Global Change at all Levels of Policymaking.....</i>	97
3.3.2. <i>Fragegrative and Nonterritorial Nature of Global Change</i>	98
3.3.3. <i>Multi-Dimensional Nature of Global Change</i>	100
3.3.4. <i>Dialectic Nature of Global Change.....</i>	101
3.3.5. <i>Ongoing Extension of Democratic Space</i>	102
3.3.6. <i>Increasing Individual Responsibility</i>	106

4.	THEORETICAL SHORTCOMINGS OF MAINSTREAM POLICY ANALYSIS FOR GOVERNANCE FOR SUSTAINABLE DEVELOPMENT	109
4.1.	POLICY ANALYSIS AS SOCIAL PRAXIS	110
4.1.1.	<i>Policy Analysis and Political Science.....</i>	<i>111</i>
4.1.2.	<i>Analytical Dimensions of Advisory Policy Analysis</i>	<i>112</i>
4.1.3.	<i>Theoretical Approaches to Policy Analysis</i>	<i>114</i>
4.1.4.	<i>Mainstream Positivist Approach to Advisory Policy Analysis.....</i>	<i>116</i>
4.2.	LIMITED CAPACITY TO ACCOUNT FOR DISCURSIVE NATURE OF THE SUSTAINABLE DEVELOPMENT CONCEPT	117
4.2.1.	<i>Phase-focused and Rational Notion of Policy Process.....</i>	<i>118</i>
4.2.2.	<i>Policies as Bounded and Invariable Outputs.....</i>	<i>119</i>
4.3.	LIMITED CAPACITY TO SUPPORT MIND-SHIFTS IN POLITICAL THINKING	121
4.3.1.	<i>Behaviourist Stimulus-Response Notion of Policy Learning</i>	<i>122</i>
4.3.2.	<i>Cognitivist Notion of Policy Problems as Objectively Given</i>	<i>124</i>
4.4.	LIMITED CAPACITY TO GRASP GLOBAL CHANGE.....	126
4.4.1.	<i>Short-Term and Temporally Static Notion of International Relations.....</i>	<i>126</i>
4.4.2.	<i>Two-Level Spatial Notion of International Relations</i>	<i>128</i>
4.4.3.	<i>Issue-Centred and Causalist Notion of International Relations.....</i>	<i>129</i>
4.4.4.	<i>Notion of Linear Dynamics of International Relations.....</i>	<i>131</i>
4.4.5.	<i>Notion of Absoluteness of Sovereignty and Primacy of State</i>	<i>133</i>
4.4.6.	<i>Notion of Individuals as Peripheral and Rational Actors in the Worlds Politics.....</i>	<i>135</i>
4.5.	EPISTEMOLOGICAL NEEDS FOR SUSTAINABILITY TURN IN POLICY ANALYSIS	136
4.5.1.	<i>Account for Discursive Nature of Policymaking</i>	<i>138</i>
4.5.2.	<i>Notion of Policy Learning as Reflexive Learning.....</i>	<i>139</i>
4.5.3.	<i>Account for Deep Uncertainty of Global Change.....</i>	<i>142</i>
5.	RESEARCH METHODOLOGICAL REQUIREMENTS OF POLICY ANALYSIS FOR GOVERNANCE FOR SUSTAINABLE DEVELOPMENT	145
5.1.	RELEVANCE OF METHODOLOGICAL FRAME AND METHODS FOR POLICY ANALYSIS	146
5.1.1.	<i>Methodological Frame as Research Logic</i>	<i>146</i>
5.1.2.	<i>Research Method as Research Path</i>	<i>152</i>
5.2.	METHODOLOGICAL APPROACHES IN POLICY ANALYSIS	157
5.2.1.	<i>Shortcomings of the Mainstream Positivist Methodology</i>	<i>157</i>
5.2.2.	<i>Interpretative Methodology as a Vehicle of Sustainability Turn</i>	<i>160</i>
5.2.3.	<i>Uses of the Foresight Approach and Futures Research Methods in Policy Analysis ..</i>	<i>163</i>
5.3.	EUROPEAN FORESIGHT DISCOURSE ON FUTURES RESEARCH METHODS	166
5.3.1.	<i>Foresight as a Core Area of Activity in the Futures Field.....</i>	<i>167</i>
5.3.2.	<i>Issues and Applications of Foresight.....</i>	<i>171</i>
5.3.3.	<i>Meta-Physical Foundations of Futures Research Methods.....</i>	<i>175</i>
5.3.4.	<i>Futures Research Methods as Tools for Comprehending Futures</i>	<i>177</i>
5.3.5.	<i>Systematisations of Futures Research Methods in Foresight</i>	<i>179</i>
5.3.6.	<i>Research Methodology for Foresight</i>	<i>185</i>
6.	TOWARDS A META-EPISTEMOLOGICAL AND META-METHODOLOGICAL FRAME FOR SUSTAINABILITY GOVERNANCE FORESIGHT	190
6.1.	PARADIGMATIC TYPOLOGY OF FUTURES RESEARCH METHODS.....	191
6.1.1.	<i>First Generation: Forecasting Methods.....</i>	<i>192</i>
6.1.2.	<i>Second Generation: Scenario Methods</i>	<i>193</i>
6.1.3.	<i>Third Generation: Critical Methods.....</i>	<i>195</i>
6.2.	EPISTEMOLOGIES IN SUSTAINABILITY GOVERNANCE FORESIGHT	197
6.2.1.	<i>Positivist Sustainability Governance Foresight.....</i>	<i>199</i>
6.2.2.	<i>Interpretative Sustainability Governance Foresight.....</i>	<i>202</i>
6.2.3.	<i>Critical Sustainability Governance Foresight</i>	<i>205</i>
6.3.	RESEARCH METHODOLOGICAL HEURISTIC FOR SUSTAINABILITY GOVERNANCE FORESIGHT.....	208
6.3.1.	<i>Explorative Approach: Policy Analyst as Critical Explorer.....</i>	<i>214</i>
6.3.2.	<i>Hermeneutic Approach: Policy Analyst as Discoverer of Frame Conflicts</i>	<i>218</i>
6.3.3.	<i>Communications Approach: Policy Analyst as Translator Across Discourses</i>	<i>225</i>

6.3.4.	<i>Deliberative Approach: Policy Analyst as Facilitator of Citizen Deliberation</i>	232
6.3.5.	<i>Emancipatory Approach: Policy Analyst as Honest Broker</i>	239
6.3.6.	<i>Transdisciplinary Approach: Policy Analyst as Transdisciplinary Knowledge Agent ..</i>	246
7.	CONCLUSION	252
8.	BIBLIOGRAPHY	267
9.	APPENDIXES	299
9.1.	ABSTRACT	299
9.2.	ZUSAMMENFASSUNG	300
9.3.	CURRICULUM VITAE	301

List of Figures¹

FIGURE 1: SUSTAINABLE DEVELOPMENT TIMELINE	43
FIGURE 2: S-CURVE (ACCELERATING GROWTH FOLLOWED BY LIMITS TO GROWTH) LEADING TO BREAKDOWN	46
FIGURE 3: S-CURVE (ACCELERATING GROWTH FOLLOWED BY LIMITS TO GROWTH) LEADING TO STEADY- STATE GROWTH	47
FIGURE 4: S-CURVE (ACCELERATING GROWTH FOLLOWED BY LIMITS TO GROWTH) LEADING TO BREAKDOWN OF THE SYSTEM FOLLOWED BY A QUANTUM JUMP / BREAKTHROUGH TO A NEW SYSTEM LEVEL.....	48
FIGURE 5: BEHAVIOURIST MODEL OF LEARNING	122
FIGURE 6: COGNITIVIST MODEL OF LEARNING	125
FIGURE 7: CONSTRUCTIVIST MODEL OF LEARNING.....	141
FIGURE 8: HETEROGENEITY OF INTERPRETATIVE METHODOLOGY.....	149
FIGURE 9: INTERPRETATIVE NOTION OF RESEARCH METHODS	152
FIGURE 10: TRACKS OF THE EUROPEAN FORESIGHT DISCOURSE	167
FIGURE 11: BASIC CONCEPT OF FORESIGHT IN THE EUROPEAN UNION	168
FIGURE 12: 2005 RANKING OF ISSUES ‘SUSTAINABILITY / PROTECTION OF THE ENVIRONMENT’ AND ‘CHANGES IN GOVERNANCE’ IN THE EUROPEAN FORESIGHT EXERCISES	172
FIGURE 13: 2005 RANKING OF ISSUES ,SUSTAINABILITY / PROTECTION OF THE ENVIRONMENT’ AND ‘CHANGES IN GOVERNANCE’ AS EMERGING ISSUES IN THE EU FORESIGHT EXERCISES	173
FIGURE 14: BASIC INTELLECTUAL PERSPECTIVES ON THE FUTURES	178
FIGURE 15: SYSTEMATISATION OF FUTURES RESEARCH METHODS BY AALTONEN / BARTH.....	183
FIGURE 16: PARADIGMATIC TYPOLOGY OF FUTURES RESEARCH METHODS	192
FIGURE 17: SECOND GENERATION FUTURES RESEARCH METHODS	195

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List of Tables

TABLE 1: COGNITIVE BARRIERS TO ACCOUNTING FOR DISCURSIVE NATURE OF THE SUSTAINABLE DEVELOPMENT CONCEPT	41
TABLE 2: COGNITIVE BARRIERS TO SUSTAINABILITY SHIFT IN POLITICAL THINKING.....	60
TABLE 3: COMPARATIVE TYPOLOGY OF THE OLD AND THE NEW PARADIGM THINKING.....	89
TABLE 4: COGNITIVE CHALLENGES OF PERCEIVING GLOBAL CHANGE IN SUSTAINABILITY PERSPECTIVE .	96
TABLE 5: EPISTEMOLOGICAL NEEDS FOR SUSTAINABILITY TURN IN POLICY ANALYSIS.....	138
TABLE 6: COMPARATIVE TYPOLOGY OF QUANTITATIVE AND QUALITATIVE RESEARCH LOGICS.....	148
TABLE 7: GOVERNANCE FORESIGHT APPROACHES	174
TABLE 8: TAXONOMY OF THE FUTURE RESEARCH METHODOLOGY	182
TABLE 9: EPISTEMOLOGIES IN SUSTAINABILITY GOVERNANCE FORESIGHT.....	198
TABLE 10: RESEARCH METHODOLOGICAL HEURISTIC FOR SUSTAINABILITY GOVERNANCE FORESIGHT..	213

List of Acronyms and Abbreviations

ACUNU	American Council for the United Nations University
AMSDE	Annual Meeting of Sustainable Development Experts
CLA	Causal Layered Analysis
EC	European Commission
EFMN	European Foresight Monitoring Network
ESDN	European Network of Sustainable Development Experts
EU	European Union
FTA	Future-Oriented Technology Analysis
FRM	Futures Research Method(s)
GDP	Gross-Domestic Product
IPTS	Institute for Prospective Technological Studies
IR	International Relations
JRC	Joint Research Centre
NGO	Non-Governmental Organisation
NSDS	National Sustainable Development Strategy
OECD	Organisation for Economic Co-operation and Development
EU SDS	Sustainable Development Strategy of the European Union
SD	Sustainable Development
SGF	Sustainability Governance Foresight
UN	United Nations
USA	United States of America

1. Introduction

*'Sustainability' is a stepping-stone
in the evolution of our thinking.
(Klein, 2006)*

1.1. Research Problem

Sustainable development (SD) today represents a fundamental objective of the European Union (EU), guiding all its policies and actions. SD was first anchored in the primary law of the EU in 1997.² In Article 2 of the Amsterdam Treaty, the EU committed itself “to promote throughout the Community a harmonious, balanced and sustainable development of economic activities, a high level of employment and of social protection, equality between men and women, sustainable and non-inflationary growth, a high degree of competitiveness and convergence of economic performance, a high level of protection and improvement of the quality of the environment, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity among Member States.”³ In 2009, the Treaty of Lisbon reaffirmed SD as an overarching objective of the Community action and placed it at the heart of the contemporary EU policy agenda.⁴

To live up to this long-term commitment to SD, the Göteborg European Council in 2001 adopted the Sustainable Development Strategy of the European Union (EU SDS),⁵ which draws on the Communication of the European Commission (EC) on ‘A Sustainable Europe for a better world: A European Strategy for Sustainable Development’.⁶ The EU SDS that was renewed by the European Council in 2006⁷ provides a long-term vision and constitutes an overarching policy framework for the EU

² Commission of the European Union, 2009a.

³ Article 2 of the Amsterdam Treaty (<http://eur-lex.europa.eu/en/treaties/dat/11997D/htm/11997D.html>).

⁴ In Article 3 of the Lisbon Treaty, the EU committed itself to “work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment” (<http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2007:306:SOM:EN:HTML>). For more see Scricciu, 2007; McCauley, 2008.

⁵ Göteborg European Council, 2001.

⁶ Commission of the European Communities, 2001b.

⁷ Council of the European Union, 2006a.

policies. It argues that mainstreaming SD into EU policies represents a serious challenge for governance, i.e., for political “steering and coordination of interdependent (usually collective) actors based on institutionalised rule systems.”⁸ The EU SDS⁹ urges policymakers to critically reflect and adapt not only the procedural politics dimension (e.g., involvement of private and public actors, organisational culture), but also the content policy dimension (e.g., policy instruments, their legal bindingness and flexibility), and the institutional polity dimension (e.g., the level of institutionalisation of interactions) of governance in order to better promote SD. Outlining an approach to better policymaking, the EU SDS shakes some of the central assumptions about governance. Among others, it encourages policymakers to address the economic, social and environmental challenges jointly with core questions as to what to regulate, when and for whom. It also encourages policymakers to develop strategic foresight capacity to better anticipate, and to respond to complex dynamic challenges.¹⁰

Policymakers in the EU, however, struggle to understand the latitude of fundamental implications of the SD objective for governance of the modern society and adapt it accordingly.¹¹ As a result, they look for comprehensive and reliable action-oriented analysis that would help them tackle the complex governance questions and close the governance gaps in promoting SD. In particular, the complex global challenges such as climate change increased the policymakers’ demand for prospective knowledge that would enable them to envision the future societal and environmental change and respond to it by adjusting governance in a way that promotes SD. Policymakers thereby increasingly turn to policy analysts for a reasoned policy advice.

In its ideal form, policy analysis represents a sub-discipline of political science that aims to apply “theory and methods of analysis from relevant social disciplines to actual problem, sharpening the focus of policymakers, identifying critical issues, and marshalling rigorous data to identify the costs and benefits of competing alternatives for public action.”¹² It uses “analytical techniques and knowledge for and in policy-

⁸ Benz, 2004, cit. in Treib et al, 2005, pp. 5.

⁹ Council of the European Union, 2006a.

¹⁰ Cf. Council of the European Union, 2006a.

¹¹ Cf. Voss / Kemp, 2005.

¹² Comfort, 1999, pp. 181.

making.”¹³ In particular, futures research methods (FRM) such as scenario workshops and Delphi studies represent increasingly popular analytical methods for ex-ante policy analysis that is directed at creating prospective knowledge for development of policy strategies, programmes and legislation to promote SD. A particularly lucrative branch of ex-ante policy analysis drawing on FRM represents the Foresight research that stands for “systematic, participatory, future intelligence gathering and medium-to-long term vision-building process aimed at present day decisions and mobilising joined actions.”¹⁴ Not only entrepreneurs, but also governments in the EU Member States established several offices that busy themselves with Foresight. The Institute for Prospective Technological Studies (IPTS) at the Joint Research Centre (JRC), thereby, represents the leading EC organisation for consolidation and better structuring of the Foresight knowledge base and for providing forward looking intelligence to support decision making.

However, in practice, the concept of providing sound ex-ante policy advice for governance for SD strengthened by analytical methods such as FRM has contained severe tensions.¹⁵ On one hand, policymakers complain about the irrelevancy and the lacking practical relevance of policy analysis and in particular of Foresight for reforming governance for more SD. On the other hand, policy analysts criticise the ignorance and blind action of policymakers.¹⁶ This is because governance for SD places new demands on policy analysis. It not only challenges the conventional forms of planning and policymaking but also the traditional conceptions of policy analysis and the role of policy analysts.¹⁷ In order to solve the theory-practice problem, policy analysts thus need to severely refocus their research priorities and to reorient themselves towards new research frontiers.

¹³ Parsons, 1995, pp. xvi.

¹⁴ Malta Council for Science and Technology, 2001, pp. 1.

¹⁵ Comfort, 1999, pp. 18; Roe, 1998.

¹⁶ For more on the theory-praxis problem of policy analysis see Runhaar et al., 2005; 2006; McDaniels, 2004; Kates et al., 2000; Comfort, 1999; Roe, 1998; Morgan et al., 1999.

¹⁷ Interview with Loikkanen, 2007. See also Runhaar et al., 2006; Comfort, 1999; Morgan et al., 1999; Roe, 1998.

1.2. Epistemological Frame and Research Questions

This thesis argues that the challenge of bridging the knowledge gap between the results of policy analysis and their application by policymakers who are involved in adapting governance for more SD can be addressed sufficiently only at the ‘second-order observation level’,¹⁸ i.e., by exploring ‘the observing’¹⁹ instead of ‘the observed’. Drawing on Von Foerster’s theory of the observer,²⁰ the thesis claims that facts are facts only for the observer, and the observers often do not see what they do not see.²¹ This means that the limitations of human understanding relative to the complexities of policy problems force policymakers and policy analysts as observers to operate on the basis of simplified representations or ‘cognitive maps’.²² Their cognition,²³ no matter how sophisticated and varied, is always excluding and selective. The resulting abbreviations and simplifications of reality lead to ‘blind spots’²⁴ due to which policymakers and policy analysts always oversee something when observing something.²⁵ Consequently, they fail to exhaust the vast range of experience. This can lead to major failures in terms of understanding and tackling the policy issues at stake.

In the second-order observation perspective, i.e., the perspective of observation of observations, policymakers need to frame governance through sustainability in order to adjust governance for more SD: “Seeing differently is the first step to doing differently.”²⁶ In order to do so, they need to understand their nature and the nature of their cognitive processes. This understanding increases their freedom to experience, construct, discover and explore new worlds.²⁷ It enables them to perceive qualitative

¹⁸ Luhmann, 1984; 1995; Von Foerster, 1993.

¹⁹ Drawing on Luhmann (1984; 1995) and Von Foerster (1993), observing in this thesis is conceived as any operation that makes a distinction.

²⁰ Von Foerster 1993; 1979; 1971.

²¹ Baecker, 1993.

²² Novy / Jäger, 2005.

²³ Drawing on Von Foerster (1993), the cognition, e.g., the cognitive processes are conceived as processes through which knowledge is acquired. They are understood as ‘Rechenprozesse’ (Von Foerster, 1993, pp. 50).

²⁴ Von Foerster, 1993.

²⁵ Baecker, 1993.

²⁶ Hardi /Zdan, 1997.

²⁷ Scott, 1993.

change and prevents them from becoming the ‘silent majority’ that cannot or does not want to hear and see how everything is changing in the continuously changing world.

Correspondingly, policy analysts should aid policymakers recognise and overcome their perceptual disorders in terms of framing governance in the SD perspective. However, also their cognition is theory-laden. In order to support policymakers at perceiving governance in the SD perspective, they thus need to be aware and adapt their theoretical, epistemological and methodological assumptions and mechanisms behind their research practice in response to cognitive dilemmas of policymakers aiming to adapt governance for more SD. They should continuously critically reflect how their underlying theoretical, epistemological and methodological presumptions determine their capacity to assist policymakers at overcoming their cognitive barriers. In other words, they need to enhance their systematic reflexivity²⁸, i.e., the epistemological and the methodological self-reflexivity and self-control, as well as their capacity to promote the self-reflexivity of policymakers.²⁹ In order to help policy analysts do so, the thesis thus focuses on the following research questions:

- (1) How does the SD concept challenge the existing cognitive maps of policymakers and what are the central cognitive barriers that prevent them from perceiving governance in the SD perspective?
- (2) How do the mainstream theoretical and research methodological approaches to using FRM limit the capacity of policy analysts to help policymakers frame governance through ‘sustainability lens’³⁰?
- (3) How do mainstream policy analysts need to rethink and adapt their theoretical, epistemological and research methodological reference frames in order to apply FRM in a way that enhances their ability to aid policymakers perceive governance in the SD perspective?

²⁸ Coghlan / Brannick, 2005.

²⁹ The thesis uses the word ‘reflexivity’ in the methodological sense, i.e., as a cognitive process of reflection/selfreflection (Hendricks / Grin, 2006).

³⁰ The thesis uses the term ‘sustainability’ as a synonym for SD.

In this thesis, policymakers and policy analysts involved with governance for SD are observed as theory-laden,³¹ non-trivial,³² reflected observers,³³ who continuously change under the influence of knowledge. The focus is put on analysing the cognitive processes of policymakers and policy analysts in terms of their blindness and insight for governance for SD. So as to identify and study the blind spots, i.e., the ‘cognitive barriers’³⁴ in the cognitive processes of policymakers and policy analysts, their reference frames and methods of perception are brought to surface for conscious examination.³⁵ Borrowing from Von Foerster,³⁶ blindness is defined as following: if policymakers and policy analysts as observers do not see that they are blind, then they are blind. However, if they see that they are blind, then they see. In contrast, their insight is conceived as knowledge, i.e., as “the processes that integrate past and present experiences to form new activities, either as nervous activity internally perceived as thought and will, or externally perceivable as speech and movement.”³⁷

1.3. State of the Scientific Discourse

Over the last decade, the cognitive barriers of policymakers in terms of framing³⁸ governance in the SD perspective have become a subject of the EU scientific and political discourse.³⁹ However, while the existing literature refers to single cognitive

³¹ Lamnek, 1995.

³² Von Foerster, 1979a.

³³ Lamnek, 1995.

³⁴ The concept of ‘cognitive barriers’ in this thesis widely corresponds with what Von Foerster refers to as ‘perceptual disorders’ or ‘Wahrnehmungsstörungen’ (Von Foerster, 1979a; 1993).

³⁵ Scott, 1993.

³⁶ Von Foerster, 1993.

³⁷ Von Foerster, 1979, pp. 2.

³⁸ Yanow, 1993; 2000; 2003; 2006a; 2006b; 2007; 2008.

³⁹ Niu et al. (1993) for example argue that the conceptual and environmental accounting frameworks generally lack an emphasis on the spatial dimension of SD. Furthermore, Mira et al. (2005), who studies the social representation of environmental problems and aims at identifying relevant variables in the formation of pro-environmental attitudes, diagnoses an environmental hyperopia, an attitude that the environmental problems are perceived as more worrying when they take place at greater distances. Groff (2004) and Mannermaa (2004) explore distinct models of change as cognitive barriers to thinking creatively about social reality. Glenn and Gordon (2004; 2005; 2006; 2007) and Glenn et al. (2008; 2009; 2010) describe the challenges of sensitising policymaking for global and long-term perspectives. Meadows (2010) focuses on chances and challenges of identifying and overcoming the limits to our thinking by thinking in systems. The cognitive barriers to translating SD into policy making also represent a subject of the ongoing EU discourse on the implementation of the EU SDS and of the NSDSs not only in political perspective (e.g., Commission of the European Communities, 2007a; 2007c; 2009a

barriers of policymakers, it fails to provide a comprehensive, comparative systematisation of the cognitive barriers or make an explicit reference to theories of cognition and meaning. Moreover, the literature is highly fragmented and without any link to discussions on the knowledge gap between policy analysis and governance for SD. In consequence, it falls short to explore and determine the new requirements of policy analysis for governance for SD in light of the cognitive dilemmas and perceptual disorders⁴⁰ that block policymakers' vision of governance through sustainability lens. It also fails to account in a comprehensive way for chances and challenges of the communicative interaction,⁴¹ i.e., the negotiation and mediation process of distinct reality definitions between policymakers and policy analysts involved in governance for SD.

One promising reference in this direction represents the recent debate on the reflexive governance,⁴² arguing that SD policy should have an inbuilt capacity for assessment and adaptation,⁴³ and that what is needed are reflexive self-critical modes of steering and governance geared toward continued learning and its own reshaping in the course of modulating ongoing development,⁴⁴ rather than toward the maximization of control to achieve certain outcomes.⁴⁵ As a result, the policy analysis tools such as Foresight exercises,⁴⁶ transition management⁴⁷ and Impact Assessment⁴⁸ are examined as important reflexive techniques that facilitate complex and reflexive learning⁴⁹ of policymakers and help them modify their decision rules and mental modes of the real world as they go along.⁵⁰ However, "while increasing attention has been given to

Republic of Austria, 2007), but also in scientific perspective (e.g., Grunwald, 2004; Niestroy, 2005; Steurer / Martinuzzi, 2005; 2007; Meadowcroft, 2007; Tils, 2007; Lafferty et al. 2007; Russel, 2007; McCauley, 2008).

⁴⁰ Von Foerster, 1971, pp. 5.

⁴¹ Lamnek, 1995.

⁴² Kemp / Martens, 2007; Voss et al., 2006; Hendricks / Grin, 2006; Voss et al., 2004; Voss / Kemp 2005; 2006; Grin, 2006.

⁴³ Kemp / Martens, 2007, pp. 7; see also Voss / Kemp, 2006.

⁴⁴ Hendricks / Grin, 2006.

⁴⁵ Kemp / Martens, 2007, pp. 7; see also Voss / Kemp, 2006.

⁴⁶ Grin / Grunwald, 2000; Brown et al., 2003; Elzen et al., 2004.

⁴⁷ Loorbach / Frantzeskaki, 2009; Rothmans et al., 2001.

⁴⁸ George / Kirckpatrick, 2007.

⁴⁹ Bandelow, 2003.

⁵⁰ Kemp / Martens, 2007, pp. 7.

theoretical notions of reflexive governance, ideas on its practice are still in their infancy.”⁵¹

The literature that explicitly addresses the knowledge gap between policy analysis and governance for SD provides detailed accounts of the research issues and the questions to be addressed by policy analysts,⁵² the methodical tools and tool-boxes to be applied,⁵³ as well as the policy-analytical competencies to be developed by policy analysts.⁵⁴ However, the level of analysis is largely limited to the ‘first-order observations’,⁵⁵ dealing with the observed. Accordingly, the literature studies governance for SD in terms of processes, structures and tools for SD, while ignoring its requirements in terms of observing processes of policymakers, i.e., the ways in which they as observers perceive the world. Policymakers are treated as ‘black-boxes’⁵⁶, i.e., their observing systems are left out of sight. The theoretical and methodological requirements of policy analysis in light of the cognitive dilemmas of policymakers struggling to adapt governance for SD thus remain widely unexamined.

The current scientific discourses on interpretative and argumentative turn in policy analysis⁵⁷ or the more general discourses on the qualitative social research,⁵⁸ on the reflexive methodology⁵⁹ and on the mode 2 sciences⁶⁰ offer valuable inputs on the epistemological and methodological requirements of policy analysis in the second-order reality perspective. In particular, the discourse on deliberative policy analysis, which connects policy analysis to the issue of deliberative democracy,⁶¹ represents a promising

⁵¹ Hendricks / Grin, 2006, pp. 3.

⁵² Meadowcroft et al., 2005.

⁵³ Runhaar et al., 2005; 2006; Roe, 1998; Morgan et al., 1999; McDaniels, 2004.

⁵⁴ Runhaar et al., 2005; 2006.

⁵⁵ Von Foerster, 1979a, pp. 2.

⁵⁶ Von Foerster, 1982.

⁵⁷ E.g., Finlayson, 2004a; 2004b; Fischer, 1993; 2003a; 2003b; Fischer / Forester, 1993; Gottweis, 2003a; 2003b; Héritier, 1993; Yanow, 1993; 2000; 2003; 2006; 2007; Yanow / Schwartz-Shea, 2006.

⁵⁸ E.g., Behrens, 2003; Charmaz, 2006; Denzin / Lincoln, 2000; Flick et al., 2000; Glaser / Strauss, 1967; Glaser / Strauss, 1998; Lamnek, 1995a; 1995b.

⁵⁹ E.g., Alvesson / Deetz, 2000; Alvesson / Skoldberg, 2000; Coghlan / Brannick, 2005; Sandelowski / Barroso, 2002; Schön, 1987.

⁶⁰ E.g., Gibbons et al., 1994; Nowotny et al, 2001; Hunecke, 2006.

⁶¹ E.g., Fischer, 1993; Wagenaar, 2003b; Wagenaar / Cook, 2003; Yanow, 2003; Hajer / Wagenaar, 2003; Héritier, 1993.

reference. Also the research methodological discourse on sustainability research⁶² and its sub-type, the social ecology research,⁶³ provide exhaustive insights. However, to date, all these discourses largely lack an explicit link to the issue of governance for SD. Furthermore, they primarily focus on the applicative potential of the classical social sciences methods, while overlooking the applicative potential of FRM as methodical solutions for policy research. Nevertheless, the innovative research methodological approaches that are advocated within these discourses often do not yet have a secure footing in the empirical policy analysis practice.

The same is true for the current EU Foresight research that is practiced across countless domains, ranging from policy analysis to public policy, technology assessment, and studies for various sectors, firms and industries. While there has been a high level of operational use of Foresight, the methodology is rarely spelled out explicitly, but often just tacitly assumed.⁶⁴ In fact, in the Foresight exercises, the methodology and theoretical grounding is often being perceived as peripheral to research practice. Glenn, co-author of one of the worldwide largest handbooks of FRM hence concludes that although much of FRM “have been institutionalized, relatively little documentation, evaluation, and agreement exists about how FRM are successful under various conditions and requirements.”⁶⁵ In other words, Foresight methodology lacks reflexivity.⁶⁶ Often, this has to do with the critique that “as the methods debates have become more philosophical, or at least epistemological, they have become less useful for doing of research.”⁶⁷

⁶² E.g., Kates et al. 2000; 2001; Clark et al., 2004; Loorbach / Frantzeskaki, 2009; Bolin et al., 2000; Flyvbjerg, 2001. For an overview of the ongoing empirical EU research on SD, see the web portal of the EC that represents “the entry point to consolidated information on the contribution of the Seventh Framework Programme to sustainable development. (...) The Seventh Framework Programme was set up to allow the European research to live up to the research and development needs expressed in the EU SDS” (http://ec.europa.eu/research/sd/index_en.cfm).

⁶³ E.g., Hunecke (2006) proposes a complex research methodological heuristic for social ecology research. Jahn (2003, 2005) and Becker and Jahn (2000) discuss the theoretical and methodical problems of transdisciplinary in social ecology research. Balzer / Wächter (2002) and Wilms-Herget (2003) outline the central research methodological requirements of social ecology research as an experimental field of sustainability research.

⁶⁴ http://forlearn.jrc.es/guide/2_design/meth_framework.htm

⁶⁵ Glenn, 2003a, pp. 17.

⁶⁶ Fuller / de Smedt, 2008, pp. 1.

⁶⁷ Melia, 1997, pp. 35, cit. in Alvesson / Sköldberg, 2009.

While the ‘third generation futurists’ provide some input on the chances and challenges for interpretative turn in use of FRM in the broader ‘futures field’^{68, 69} the level of research and development of the Foresight methodology remains low. However, it is common notion within the EU Foresight discourse that more in depth discussion of methodological considerations would be useful for the Foresight community to better understand the nature of the Foresight knowledge.⁷⁰ The IPTS for example points towards the high relevance of addressing the question of methodology in Foresight, because “it is critical to be clear about methodology when attempting to create an understanding of the future. For instance some methodological considerations might give guidance on why participation is needed to state anything relevant about the future or what it means to be an ‘expert’ etc.”⁷¹ Accordingly, in the past decade, there have been several efforts taken to fuel the theoretical and methodological discussions within the EU Foresight discourse and to provide a coherent framework for communication and co-operation among the Foresight researchers at the EU level.⁷² However, the existing Foresight literature fails to establish a clear link to the current EU discourse on the theoretical, methodological and methodical issues of policy analysis as well as to the recent EU discourse on the requirements of governance for SD.

⁶⁸ The concept of futures field was introduced by US scholar Slaughter, 2001a. He distinguishes three core areas of futures activities, including Futures Research, Futures Studies and futures movements. In this thesis, Foresight is considered to a further core area of futures activity, typical for EU-based policy research.

⁶⁹ Cf. Inayatullah, 1992; Inayatullah, 1999; Inayatullah / Wildman, 1999; Inayatullah, 2001; Inayatullah, 2002a; Inayatullah, 2002b; Inayatullah, 2003; Slaughter, 1984; Slaughter, 1995; Slaughter, 1997; Slaughter, 1999; Slaughter 2001; Slaughter 2001a; Slaughter / Inayatullah, 2003; Mannermaa, 1988; 2000; Gordon / Glenn / Jakil, 2005.

⁷⁰ http://forlearn.jrc.es/guide/2_design/meth_framework.htm

⁷¹ http://forlearn.jrc.es/guide/2_design/meth_framework.htm

⁷² E.g., the EC Project COST 22 ‘Foresight Methodologies’ in 2003-2007 (<http://Costa22.org>; Fuller / de Smedt, 2008; COST A22, 2007); International Seville Seminars on FTA (<http://foresight.jrc.ec.europa.eu/fta.html>); FOR-LEARN project (<http://forlearn.jrc.ec.europa.eu/index.htm>); ForSociety Initiative (<http://www.eranet-forsociety.net>); web-based platform of the European Foresight Monitoring Network (EFMN) (<http://www.efmn.info>); Practical Guides to Foresight provided by the EC (e.g., Miles et al., 2002; http://forlearn.jrc.ec.europa.eu/guide/0_home/index.htm); the Mutual Learning Platform (http://www.innovating-regions.org/network/whoswho/projects_extended.cfm?sub_id=27&project_id=9).

1.4. Research Purpose and Goals

The goal of this thesis is to make an active contribution to the ongoing EU discourse about the knowledge gap between policy analysis and governance for SD by proposing a comprehensive reference frame for policy analytical Foresight for governance for SD, called ‘Sustainability Governance Foresight’ (SGF). This frame should enable policy analysts to increase their theoretical, epistemological and methodological reflexivity and self-control when using FRM to exercise policy analytical Foresight that is aimed at informing governance for SD. It should help them to better understand their emergence as observers (‘reflexive cybernetics’⁷³), to critically reflect their ways of knowing themselves, to question their own cognitive processes, and to assess the state of their receptors in light of the cognitive barriers of policymakers struggling to adapt governance for SD.

In order to fulfil this goal, the thesis follows several interrelated objectives. First, it strives to elaborate a *typology of cognitive barriers and challenges of policymakers in terms of perceiving governance in the SD perspective* that need to be systematically addressed by policy analysts in order to inform governance for SD. This typology should enable policy analysts to systematically examine the cognitive maps of policymakers and identify their cognitive challenges in terms of perceiving governance in the SD perspective. In consequence, it should allow policy analysts to better understand the demand of policymakers for policy advice and to provide targeted policy relevant knowledge that addresses the cognitive barriers of policymakers.

Moreover, the thesis aims to develop a *typology of shortcomings of mainstream theoretical approaches to policy analysis for governance for SD*. The typology should serve policy analysts as a reference frame to critically reflect the selectivity of their mainstream theoretical approaches. It should allow them to critically reflect how these approaches determine their ability to help policymakers overcome their cognitive barriers to framing governance in the SD perspective. Besides facilitating the systematic exploration of benefits and limitations of the mainstream theoretical approaches to

⁷³ Von Foerster, 1993.

policy analysis, the typology should also serve policy analysts as a matrix to systematically identify the central epistemological needs of policy analysis for governance for SD and to search for alternative theoretical approaches to meet these needs.

Nevertheless, the thesis strives to propose a meta-epistemological and methodological for SGF that comprises three elements. A *paradigmatic typology of FRM* should help policy analysts critically reflect the epistemological value of the FRM for exercising SGF. A *typology of epistemologies for SGF* should allow policy analysts to critically reflect, how different epistemological frames for exercising SGF determine the research interest, the goals and the outcomes of SGF and how they influence their ability to meet the epistemological needs of policy analysis for governance for SD. Finally, the frame includes a *research methodological heuristic for SGF* that should enable policy analysts to emancipate themselves from the unreflected choice and use of FRM and to critically reflect and adapt their research methodological approaches to choosing and using FRM in way that is responsive to the epistemological needs. The heuristic identifies a range of central research methodological tasks, questions and principles which policy analysts need to tackle in order to exercise SGF that allows them to fill the knowledge gap of policymakers struggling to adapt governance for more SD.

1.5. Scope of the Thesis

When studying policy analysis, the thesis conceives it exclusively as a sub-discipline of political science.⁷⁴ Schubert and Bandelow⁷⁵ argue that policy analysis achieved the status of paradigm thinking within political science as an action- and policy-oriented sub-discipline of political science that is aimed at using analytical techniques and knowledge for and in policy-making. Moreover, the thesis focuses exclusively on studying the advisory policy analysis,⁷⁶ i.e., policy analysis that takes the form of

⁷⁴ E.g., Schubert/ Bandelow, 2003; Fischer, 2003; Bell, 2003a.

⁷⁵ Schubert/ Bandelow, 2003.

⁷⁶ Bandelow (2003) refers to the advisory type of policy analysis as ‘advisory policy analysis’.

‘advisory science’⁷⁷ striving to develop knowledge relevant to formulation and implementation of public policy.

The conception and understanding of governance for SD in this thesis comprises all three central understandings of the governance concept in the present EU political science debate and research. It refers to the institutional polity dimension, i.e., to the “system of rules that shapes the actions of social actors”⁷⁸ including a wide spectrum of governance modes between market and hierarchy. Furthermore, it relates to the politics dimension and to the process of policymaking, i.e., to “the ways and means in which the divergent preferences of citizens are translated into effective policy choices, about how the plurality of societal interests are transformed into unitary action and the compliance of social actors is achieved.”⁷⁹ Moreover, the governance definition covers the policy dimension, i.e., the modes of political steering or steering instruments that define how particular policy goal should be achieved,⁸⁰ including different command and control instruments, information, deliberation and persuasion or different forms of social influence and control.⁸¹

In addition, the thesis is based on a broad understanding of governance. Thus it observes “every mode of political steering involving public and private actors, including traditional modes of government and different types of steering from hierarchical imposition to sheer information measures.”⁸² This understanding differs from the narrow governance concept that is established in opposition to traditional, hierarchical steering instruments that entails only “types of political steering in which non-hierarchical modes of guidance, such as persuasion and negotiation, are employed, and/or public and private actors are engaged in policy formulation.”⁸³ The narrow understanding of governance would thus complicate the task of observing and

⁷⁷ Héritier, 1993.

⁷⁸ Treib et al., 2005, pp. 5. For more see Rosenau, 1992; Mayntz, 2004.

⁷⁹ Kohler-Koch, 1999, cit. In Treib et al., 2005, pp. 5.

⁸⁰ Héritier, 2002; Windhoff-Héritier, 1987.

⁸¹ Treib et al, Baldwin / Cave, 1999, Windhoff-Héritier, 1987.

⁸² Héritier, 2002, pp. 1.

⁸³ Héritier, 2002., pp. 1.

analytically grasping the broad range of different policymaking patterns and policy outputs.⁸⁴

The thesis largely focuses on analysing the EU political and policy analysis discourse in order to study the knowledge gap between governance for SD and policy analysis. Thereby, three approaches were used to gather data. First, data was collected via participatory observation of the working processes and outputs of the Department IV/2 for Coordination of Environment, Sustainability and Transport in the Federal Chancellery of Austria⁸⁵ and of the work of the Permanent Representation of Austria to the EU in Brussels.⁸⁶ Second, a series of interviews were conducted with policymakers, policy analysts and sustainability experts who are actively involved in the EU sustainability discourse and champion, oversee, guide, audit or write strategies for SD at the EU, national and regional level.⁸⁷ Moreover, qualitative content analysis of key documents with relevance for sustainability at the EU level (e.g., EU SDS, communications, minutes and press releases on the SD issues) and at the Member States level (e.g., National Sustainable Development Strategies [NSDSs] and progress reports) provided a broad picture on the challenges and chances of the evidence and knowledge-based mainstreaming of SD into policymaking. The thesis furthermore scans the central conferences on SD in the EU (e.g., the conference ‘Steuert die EU in Richtung Nachhaltigkeitsunion?’, ‘Sustainable Neighbourhood - from Lisbon to Leipzig with Research [L2L]’ in 2007,⁸⁸ ‘11. Jahreskonferenz des Rates für Nachhaltige Entwicklung’ in 2010⁸⁹), as well as the web-based portals on SD (e.g., the portal of the

⁸⁴ Treib et al., 2005; Eberhard et al., 2006.

⁸⁵ Since 2007, the author of the thesis is working as a civil servant / desk officer in the Department IV/2 for Coordination of the Environmental and Transport Policy in the Federal Chancellery of Austria. The department is in charge of preparations of the European Council in the field of SD, of implementation, monitoring and review of the EU SDS, of development, operationalisation and monitoring of ‘Gesamtösterreichische Nachhaltigkeitsstrategie - ÖSTRAT’ as well as of preparations of the Annual Meeting of Sustainable Development Experts (AMSDE) at the Organisation for Economic Development and Co-operation (OECD). The author is a substitute member of the AMSDE since 2007 and she chairs the AMSDE Sustainability Impact Assessment Steering Group since 2009.

⁸⁶ In 2008, the author was on a two-month rotation to the Permanent Representation of Austria to the EU in Brussels, when the negotiations on EU climate and energy package entered the final stage.

⁸⁷ Interviews with Dewandre, 2007; 2008; García, 2007; Müller, 2007; Niestroy, 2008; Riegler, 2004; Spangenberg, 2008; Steuerer, 2007; Trattnigg, 2007; Türk, 2004.

⁸⁸ <http://www.fona.de/en/5852>

⁸⁹ <http://www.nachhaltigkeitsrat.de/termine/veranstaltungen-des-rates/10-jahreskonferenz/>

EC on SD,⁹⁰ the EU research portal on SD⁹¹), and the governmental and/or civil society sustainability networks and initiatives (e.g., European Network of Sustainable Development Experts [ESDN]⁹² initiative ‘Growth in Transition’⁹³). Another relevant source of data represents the series of research projects on ‘Sustainability and Environmental Communication’ at the Institute for Journalism and Communication Studies of the Vienna University⁹⁴ for the Environmental Bureau of Lower Austrian Provincial Government and for the ‘Niederösterreichische Landesakademie’.⁹⁵ The thesis also draws on the doctoral research project of the author for the Global Marshall Plan Initiative at the Ecosocial Forum Europe between 2005 and 2006.⁹⁶

The thesis focuses on analysing the futures research discourse in the EU and in the United States of America (USA) in order to explore the applicative potential of the Foresight approach and FRM in policy analysis for governance for SD. Again, three approaches were used to collect empirical data. First, qualitative content analysis of the outputs of the Millennium Project of the American Council of the United Nations University⁹⁷ (ACUNU) provided a broad picture of how Foresight is conducted in the EU. In particular, the thesis draws on the ACUNU annual series of the ‘State of the Future’ reports⁹⁸ and on the ACUNU CD-Rom on ‘Futures Research Methodology’⁹⁹ that is commonly considered to be the world’s largest compilation of FRM.¹⁰⁰ Another source of data represents the problem-oriented content analysis of the central

⁹⁰ <http://ec.europa.eu/environment/eussd/>

⁹¹ http://ec.europa.eu/research/sd/index_en.cfm

⁹² The author is a member of the ESDN in her role as the representative of the Austrian Federal Chancellery. For more see <http://www.sd-network.eu/>

⁹³ <http://www.growthintransition.eu/>

⁹⁴ The author acted as a project manager 2002-2004 in her role as a student assistant for Prof. Thomas A. Bauer at the Institute for Journalism and Communication Sciences at the Vienna University.

⁹⁵ Abedin et al., 2003; Appeltauer et al., 2004a; Ascher et al., 2004b.

⁹⁶ The author held a one-year research stipend of the Ecosocial Forum Europe (2005-2006) and was a member of the Global Marshall Plan think-tank (2005- 2006).

⁹⁷ The author acted as an intern and research assistant at the Millennium Project of the ACUNU in Washington D.C. between 2004 and 2007. ACUNU is a global futures research think-tank aimed to “assist in organising futures research, improve thinking about future, and make that thinking available (...) for consideration in policymaking (...) in order to accumulate wisdom about potential futures”(Glenn / Gordon, 2007).

⁹⁸ Glenn / Gordon, 2004; 2005; 2006; 2007; Glenn et al., 2008; 2009; 2010.

⁹⁹ Gordon / Glenn, 2003.

¹⁰⁰ Gordon / Glenn, 2003.

anthologies on the futures field,¹⁰¹ including the ‘Knowledge Base of Futures Studies’,¹⁰² ‘Futures Studies - Methods, Empirical Issues and Civilisational Visions’,¹⁰³ and ‘Foundation of Futures Studies’.¹⁰⁴ In addition, the thesis draws on the interpretative content analysis of acknowledged journals in the EU and US futures field (e.g., *Futures*, *Futures Research Quarterly*, *Technological Forecasting and Social Change*), of the web-based EU knowledge platforms on Foresight (e.g., *For-Learn Online Guide*,¹⁰⁵ *European Foresight site*¹⁰⁶) and of the outcomes and processes of the European Foresight Monitoring Network (EFMN).¹⁰⁷ Also the outcomes of a three-year EU-funded research project ‘future-university - European Master in Future and Foresight Studies’¹⁰⁸ provided valuable inputs on the state of the university education on Foresight. Second, the thesis scans the central international and EU conferences in the futures field, including the World Futures Studies Conferences (in particular, the conference in 2005 in Washington),¹⁰⁹ the International Seminars on Future-oriented Technology Analysis,¹¹⁰ the UNIDO¹¹¹ Expert Group Meeting on the Future of Technology Foresight in 2007¹¹² and the European Foresight Platform Conference in 2010.¹¹³ Third, a series of qualitative expert interviews were conducted with the EU and

¹⁰¹ Direct citations from sources that were published exclusively as a CD-Rom or as a web-site (e.g., Inayatullah, 1999; Slaughter / Inayatullah, 2001) are not fitted with corresponding page numbers when there are no such indications made in the text cited.

¹⁰² Slaughter, 2001.

¹⁰³ Inayatullah / Wildman, 1999.

¹⁰⁴ Bell 2003a; 2003b.

¹⁰⁵ http://forlearn.jrc.ec.europa.eu/guide/0_home/index.htm

¹⁰⁶ http://foresight.jrc.ec.europa.eu/fta_2008/intro.html

¹⁰⁷ <http://www.efmn.info/>

¹⁰⁸ The author acted as a project manager in her role as a student assistant for Prof. Thomas A. Bauer at the Institute for Journalism and Communication Sciences at the Vienna University between 2002 and 2004. This project was aimed at developing “a Masters level course to run in the partner universities which will produce a cadre of experts in Future Study and Foresight/Forecasting in the European context in order to professionalise this area of work”(future-university, 2003). The project was conducted by a consortium of Karlstads Universitet, Middlesex University, Roskilde Universitetscenter, Uniwersytet Jagiellonski, Università degli Studi di Firenze, Universidad de Malaga and Universität Wien between 2002 and 2004.

¹⁰⁹ http://www.wfsf.org/index.php?option=com_content&view=article&id=76&Itemid=91

¹¹⁰ http://foresight.jrc.ec.europa.eu/fta_2008/intro.html

¹¹¹ UNIDO stands for United Nations Industrial Development Organisation.

¹¹² <http://www.unido.org/index.php?id=o12296>

¹¹³ <http://ipg.ict.tno.nl/wordpress/efp/2010/05/06/foresight-and-forward-looking-activities-exploring-new-european-perspectives/>

US experts who are actively involved in futures research and who oversee, guide, audit and exercise Foresight.¹¹⁴

1.6. Research Methodological Frame

The inquiry in the thesis is embedded in constructivist grounded theory.¹¹⁵ Accordingly, it follows several interpretative qualitative research principles. First of all, the thesis takes a process-oriented approach to research.¹¹⁶ The cognitive maps of policymakers and policy analysts are not seen as given and static interpretation patterns that exist *per se*, but as patterns that are reproduced and modified through their application, i.e., through action and interpretation processes.¹¹⁷ The inquiry, therefore, strives to explore the process of constitution of the reality-, interpretation- and action-patterns (‘Deutungs- und Handlungsmuster’) with the help of which policymakers and policy analysts perceive and practically handle the world.¹¹⁸ It aims to document and analytically reconstruct the constitution process of the reality and explain it on the basis of the hermeneutic reconstruction. This is done by observing in a methodical hermeneutic sense their observations and descriptions of the world as context and language-dependent results of their individual interpretation processes. The observations by policymakers and policy analysts are not explored as static representations of an unchanging reality context, but as processual segments of reproduction and construction processes of social reality. Following the processuality principle, the thesis always attempts to capture of the context of emergence of the social phenomena. It reflects how the knowledge gap between policymakers and policy analysts involved with governance for SD can be reduced with much variation and how these solutions need to be continuously altered and modified in response to new contextual conditions.

¹¹⁴ Interviews with Aaltonen, 2007; Cassigena, 20004; Coates, 2004; Da Costa, 2004; 2007; De Fonseca, 2007; Glenn, 2004-2010; Gordon, 2004; Groff, 2004; Linstone, 2004; Havas, 2007; Keenan, 2004; Loikkanen, 2007; Mannerman, 2004; Nelson, 2004; Scopolio, 2004.

¹¹⁵ Charmaz, 2000; 2006; 2007; Roessler / Gaiswinkler, 2006.

¹¹⁶ Lamnek, 1995.

¹¹⁷ Lamnek, 1995.

¹¹⁸ Lamnek, 1995.

In constructivist perspective, the research data is always conceived in double sense; as data for observers and as data of observers. This thesis hence does not claim to have the representative, but the specificity status.¹¹⁹ Each interpretation is – in the sense of the subjective research – dependent from the perspectivity of the author and of the available sources.¹²⁰ In order to generate knowledge that evokes the grab,¹²¹ i.e., that fits closely with the research incidents and that captures the attention, the thesis is based on a research design that is *opened*¹²² towards the research objects, research sources, research situation and towards the methodical and theoretical reference frame.

During the course of inquiry, the research data was not forced into the pre-existing theoretical categories. Instead, the theoretical frame remained opened until the end of inquiry and was refined in continuous exchange between the qualitative research data and the theoretical preconception. Then, the conceptual level of the analysis of research data was systematically raised. The coding of data,¹²³ i.e., the analytical interpretations of research data throughout the research process, enabled to adapt the research process in response to new developments and knowledge that were then used to refine and modify the preliminary theoretical considerations. Theoretical sampling¹²⁴ thereby largely relied on the comparative method. The observations by the author, by the interview partners, by policymakers and policy analysts and in the literature were compared in order to develop a set of relevant categories for explaining the data. The categories were then matched with the theoretical literature in order to label them with commonly used terms in the scientific discourse. This took me back to the field, where the categories were compared with new data so as to gain more insight about when, how and what extent they were pertinent and useful. Drawing on the hermeneutic cycle model,¹²⁵ the inquiry was conceptualised as an exploration that is primarily interested in generating - as opposed to testing - the hypothesis¹²⁶ on the basis of rich empirical data.

¹¹⁹ Von Foerster 1993, pp. 21.

¹²⁰ Forschauer/Lueger, 2003, pp. 84.

¹²¹ Charmaz, 2000.

¹²² Lamnek, 1995.

¹²³ Charmaz, 2000.

¹²⁴ Charmaz, 2000.

¹²⁵ Lamnek, 1995.

¹²⁶ Lamnek, 1995.

Throughout the inquiry, the communication between the author of the thesis and the research objects, i.e., the policymakers and the policy analysts - played a central and constitutive part of the research process. This communicative interaction¹²⁷ served to mutually negotiate and mediate the reality definitions between the research objects and the observations of the author. It was considered to be a precondition of the research act and not a distortion factor that has to be eliminated through refinement and standardisation of research methods.

1.7. Structure of the Thesis

The thesis is structured into seven chapters. Following the introduction in *chapter 1*, *chapter 2* outlines the cognitive barriers of policymakers to perceiving policymaking in the SD perspective. Drawing on theoretical preconsiderations about the nature and the sense of policymaking as advanced by Von Foerster,¹²⁸ Arendt,¹²⁹ Orren¹³⁰ and Fischer,¹³¹ the focus is put on twofold issues. First, the chapter discusses the cognitive barriers of policymakers to accounting for discursive, pluralist and dialogue-based nature of the SD concept. Secondly, the chapter critically reflects the capacity of policymakers to make a sustainability shift in their political thinking. Borrowing from Luhmann's concept of sense-making and the Von Foerster's theory of observation, the chapter illuminates how the SD concept challenges the existing temporal, spatial, fact, dynamic, power and ethical horizons of meaning in political thinking of policymakers.

Chapter 3 critically explores the capacity of policymakers to perceive global change, i.e., change in patterns of global affairs in the SD perspective. The chapter draws on the Kuhn's concept of paradigm so as to bring the deeply-rooted assumptions of policymakers that constitute the basis for drawing a map of global affairs to surface for conscious examination. It inquires, what theories and models of international relations (IR) serve policymakers as reference frames to observe global change, what paradigm

¹²⁷ Lamnek, 1995.

¹²⁸ Von Foerster, 1979; 1982; 1993, 2006; Von Foerster / Glasersfeld, 2007.

¹²⁹ Arendt, 2003; 2000; 1986a; 1986b.

¹³⁰ Orren, 1988.

¹³¹ Fischer, 2003a; Fischer, 2003b.

thinking do they derive from, and how do they impact the ability of policymakers to perceive global change through sustainability lens. The chapter also studies the potential of the global governance theory as a reference point for observing the nature, sources and implications of global change in the SD perspective.

Chapter 4 critically reflects the underlying theoretical presumptions of mainstream policy analysts that importantly determine their capacity to help policymakers see and overcome the central cognitive barriers to and challenges of perceiving governance in the SD perspective. In order to determine the ability of policy analysts to assist policymakers at accounting for discursive nature of the SD concept, the chapter first critically reflect their theoretical assumptions about the role of the SD concept for and in policymaking. So as to inquire the capacity of policy analysts to aid policymakers make a sustainability shift in their political thinking, the chapter critically reflects their assumptions about the ways in which policymakers acquire knowledge. Theories of learning ranging from behaviourist to cognitive and constructivist theories of learning are consulted as reference frames. Nevertheless, theories of IR are used as reference frames for bringing to surface the assumptions of policy analysts about the nature, dynamics and implications of global change, which importantly determine their ability to help policymakers account for it in the SD perspective. Drawing on the insights about theoretical shortcomings, the chapter concludes by outlining the central epistemological needs of policy analysis for governance for SD that policy analysts need to tackle so as to improve their capacity to inform governance for SD.

Chapter 5 explores the research methodological requirements of policy analysis for governance for SD. Thereby, it focuses on analysing the applicative potential of the Foresight approach and of FRM for tackling the epistemological needs of policy analysis for governance for SD. The chapter outlines why the mainstream positivist research methodological approach to policy analysis limits the capacity of policy analysts to choose and use FRM in a way that allows them to meet the epistemological needs of policy analysis for governance for SD. Moreover, it highlights how policy analysts can profit from the policy analysis discourse on interpretative methodology and from the current EU Foresight discourse so as to improve their capacity to use FRM in a

way that is responsive to the epistemological needs of policy analysis for governance for SD.

Against this background, *chapter 6* proposes a meta-epistemological and meta-methodological frame for exercising policy analytical SGF. This frame comprises three elements that should serve policy analysts as reference frames for critical reflection of their uses of FRM in SGF in light of the epistemological needs of policy analysis for governance for SD: the paradigmatic classification of FRM for SGF, the typology of epistemologies in SGF and the research methodological heuristic for SGF.

Chapter 7 summarises the main findings of the thesis and gives an outlook on further research issues and questions to be addressed in order to advance the political science discourse on the knowledge gap between policy analysis and governance for SD and on the applicative potential of the Foresight approach and of FRM for the ex-ante policy analysis for governance for SD.

2. Perceiving Policymaking in Sustainable Development

Perspective: Cognitive Challenges and Barriers

*The significant problems we face cannot
be solved at the same level of thinking
we were at when we created them.
(Albert Einstein)*

The capacity of policy analysts to inform governance for SD largely depends from their ability to adequately address the central constraints and dilemmas of policymakers in terms of adapting governance for more SD. However, why do policymakers struggle to adjust governance for more SD? What are the barriers that limit their capacity to operationalise the SD concept, i.e., to create governance for bringing the society onto the tracks of SD? How to identify the reasons for their limited capacity to determine the governance operations necessary to translate the concept of SD into policymaking?

The radical constructivist theory offers a promising reference frame to answer these questions. It argues that the limitations of human understanding relative to the complexities of policy problems force policymakers to operate on the basis of simplified representations or ‘cognitive maps’.¹³² The cognition of policymakers, i.e., the way they frame governance and SD, importantly influences their selection and pursuit of the SD goals. It deeply affects their judgements, decisions, behaviour and actions, and determines their capacity to adapt governance for more SD. Von Foerster summarises this problem with the following metaphor: “Perception is action.”¹³³ In order to examine and identify the main reasons for the limited capacity of policymakers to adjust governance for more SD, this chapter hence aims at exploring: How does the SD concept challenge the common cognitive maps and logics behind political thinking of policymakers? What are the main cognitive barriers that severely restrict the capacity of policymakers to observe governance in the SD perspective?

¹³² Novy / Jäger, 2005.

¹³³ Von Foerster, 1991.

The goal of the chapter is to propose a typology of the central cognitive barriers of policymakers in terms of observing policymaking in the SD perspective. Drawing on Kreisky,¹³⁴ the chapter conceives policymakers as both, actors who are professionally concerned with policy-making and as political experts who strive for rational argumentation and grounding of policymaking. Policymakers thus include politicians, civil servants in the public administration, journalists, activists in civil initiatives or non-governmental organisations (NGO-s) etc. Political thinking of policymakers is conceived as more or less elaborated reflection of policymaking, as reacting on the challenges of time and on the problems that concern the human cohabitation, as thinking about policymaking and political behaviours and as thinking in political disputes.¹³⁵

The chapter proceeds in three analytical steps. *Part 1* discusses the role of the SD concept for policymaking by taking two perspectives. First, it reconstructs¹³⁶ the framing of the SD concept and the problem of its implementation in the EU discourse. The goal is to document the main observations and framings of the implementation problem within the EU SD discourse. The exploration is based on the presumption that the concept of SD can obtain greater importance only if political system makes references to the concept. Secondly, part 1 critically discusses the theoretical perspectives on policymaking in terms of their capacity to serve as reference frames for systematic exploration of the relevance of the SD concept for policymaking. Drawing on these considerations, *part 2* explores the capacity of policymakers to account for discursive nature of the SD concept when adapting governance for more SD. *Part 3* discusses the ability of policymakers to update their perspectives on policymaking and make a sustainability shift in their political thinking.

¹³⁴ Kreisky, 2003a.

¹³⁵ Kreisky, 2003a.

¹³⁶ Lamnek, 1995.

2.1. Relevance of the Sustainable Development Concept for Policymaking

The discourse on the relevance of the SD concept for policymaking is always – implicitly or explicitly - determined and informed by a specific understanding of the nature and sense of policymaking. In the EU political discourse, SD was elevated to an overarching objective in 1997 and broken down to the EU SDS for mainstreaming SD into policymaking in 2001. Ever since, mainstreaming SD into EU policies represents a priority issue of the EU political debate.¹³⁷

Also in the political science discourse, the role of ideas such as the SD concept for policymaking represents an increasingly prominent issue. The theoretical approaches to studying the role of ideas for policymaking thereby range from positivist, behaviourist, scientific, dogmatic approaches to constructivist, post-positivist and post-modern approaches. These approaches offer different and often opposing answers on the following questions concerning the relevance of SD for policymaking: Does SD concept have a clearly identifiable causal role in determining action? Does it only mirror the events that happen for the reasons related to social structure? And, is SD only rationalisation or legitimisation offered to explain what otherwise would appear to be strategic manoeuvre to satisfy ones own beliefs?

Much of the current scientific reflection is guided by the positivist¹³⁸ models of policymaking as static policy cycle or stages. However, they are overly descriptive and lack the explanatory power concerning the role of ideas in policymaking. Although they address the role of ideas, beliefs, norms and institutions in policymaking, they tell us little about their relationship to other political factors.¹³⁹ This thesis distances itself from these commonly adopted concepts of policymaking. When exploring the struggle of policymakers to adapt governance for more SD, it draws on the radical constructivist

¹³⁷ <http://ec.europa.eu/environment/eussd>

¹³⁸ In the literature, positivist models of policymaking are also referred to as behaviourist, dogmatic or monoethic models of policymaking.

¹³⁹ Fisher, 2003.

theory as advanced by Von Foerster¹⁴⁰ and on the theoretical deliberations of Arendt,¹⁴¹ Orren¹⁴² and Fischer¹⁴³ that offer promising reference frames for observing the relevance of SD for policymaking and its role in determining policy action.

2.1.1. The Implementation Gap in the European Union

In 1997, the Amsterdam Treaty¹⁴⁴ governing all EU policies elevated SD to an overarching objective of the EU and placed it at the heart of the EU policy agenda. Accordingly, the EU Heads of States and Governments at the Gothenburg Summit in June 2001 adopted the first EU SDS¹⁴⁵ on the basis of the EC Communication "A Sustainable Europe for a better world: A European Strategy for Sustainable Development".¹⁴⁶ The SDS completed the EU's political commitment to economic and social renewal and added a third, environmental dimension to the EU Lisbon strategy on growth and employment as well as established a new approach to policymaking.¹⁴⁷ It defined four priority areas: combating climate change, ensuring sustainable transport, addressing threats to public health, and managing natural resources more responsibly.¹⁴⁸

However, in 2005, the EC elaborated a proposal for a review of the EU SDS. Although several strategic initiatives have been implemented to promote SD, the EC concluded that "not enough progress has been achieved; unsustainable trends should start to reverse."¹⁴⁹ In order to meet this goal, in June 2006 the European Council adopted the renewed EU SDS¹⁵⁰ that sets out "a single, coherent strategy on how the EU will more effectively live up to its long-standing commitment to meet the challenges of sustainable development."¹⁵¹ It introduces a definition of SD combining four key objectives: environmental protection, social equity and cohesion, economic prosperity

¹⁴⁰ Von Foerster, 1979; 1982; 1993, 2006; Von Foerster / Glasersfeld, 2007.

¹⁴¹ Arendt, 2003; 2000; 1986a; 1986b.

¹⁴² Orren, 1988.

¹⁴³ Fischer, 2003a; 2003b.

¹⁴⁴ <http://ec.europa.eu/environment/eussd>

¹⁴⁵ Göteborg European Council, 2001.

¹⁴⁶ Commission of the European Communities, 2001b.

¹⁴⁷ Cf. Paragraph 20, Göteborg European Council, 2001.

¹⁴⁸ Cf. Paragraph 27, Göteborg European Council, 2001.

¹⁴⁹ Commission of the European Communities, 2005a, pp. 4.

¹⁵⁰ Council of the European Union, 2006a.

¹⁵¹ Council of the European Union, 2006a, pp. 3.

and the need to meet international responsibilities. According to the EU SDS, “sustainable development means that the needs of the present generation should be met without compromising the ability of future generations to meet their own needs. (...) It is about safeguarding the earth's capacity to support life in all its diversity and is based on democracy, gender equality, solidarity, the rule of law and respect for fundamental rights, including freedom and equal opportunities. It aims at continuous improvement of the quality of life and well-being on Earth for present and futures generations. To that end, it promotes a dynamic economy with full employment and a high level of education, health protection, social and territorial cohesion and environmental protection in a peaceful and secure world, respecting cultural diversity.”¹⁵²

In comparison to the first EU SDS, the renewed EU SDS¹⁵³ is more comprehensive and includes clearer governance and implementation provisions.¹⁵⁴ It identifies unsustainable trends within seven key policy areas on which action needs to be taken, adding three priority areas to the ones identified in the first EU SDS. They include (1) climate change and clean energy, (2) sustainable transport, (3) sustainable consumption and production, (4) conservation and management of natural resources, (5) public health, (6) social inclusion, demography and migration, and (7) global poverty and SD challenges. In addition, the EU SDS contains cross-cutting policies that aim to promote knowledge society, including the education and training and the research and development policy. Each key policy area is determined by detailed operational and quantitative objectives and targets as well as by specific measures to attain these perspectives at the EU level within the next 10, 20 or 50 plus years. The main focus of the EU SDS thus lies on outlining the middle- and long-term challenges and actions that are necessary to mainstream SD into policymaking.

According to the renewed EU SDS,¹⁵⁵ the European Council will review the progress and the priorities and provide guidelines on policies, strategies and instruments for SD on the basis of a report of the EC every second year. Drawing on the national progress

¹⁵² Council of the European Union 2006a, pp. 2.

¹⁵³ Council of the European Union, 2006a.

¹⁵⁴ Berger / Zwirner, 2008.

¹⁵⁵ Council of the European Union, 2006a.

reports of the Member States, the first EC progress report on the EU SDS in 2007 pointed out severe implementation problems, saying that “the picture is one of relatively modest progress on the ground whilst policy development in many cases is more encouraging this promising more significant impact on the ground in years to come.”¹⁵⁶ In consequence, the European Council in December 2007 invited the EC to “present a roadmap together with its next progress report in June 2009 on the EU SDS setting out the remaining actions to be implemented with highest priority.”¹⁵⁷

Although the Treaty of Lisbon in 2009 reaffirmed that SD represents the basic principle of the Community action,¹⁵⁸ the EC in the same year decided to abdicate the progress reports of the Member States and not to provide a roadmap on the EU SDS. This decision was heavily criticised by several Member States, including by Austria. The EC’s second review report on the EU SDS from July 2009¹⁵⁹ largely repeated the rhetoric of the first progress report. In December 2009, the Swedish of the EU hence pointed out that the challenge continued to lie in “ensuring that the SDS has a real influence on the EU policies, to ensure coherence between short and long-term objectives and between different sectors.”¹⁶⁰ In particular, the Presidency stressed the need for strengthened EU SDS governance, stating that “governance, including implementation, monitoring and follow-up mechanisms [of the EU SDS] should be reinforced for example through clearer links to the future EU 2020 strategy and other cross-cutting strategies.”¹⁶¹ Against this background, the European Council later in December 2009 confirmed that the EU SDS “will continue to provide a long-term vision and constitute the overarching policy framework for all Union policies and strategies.” Thereby, it pointed out that “a number of unsustainable trends require urgent action,”¹⁶² that “priority actions should be more clearly specified in future reviews”¹⁶³ of the EC, and that governance of the EU SDS “should be reinforced for example

¹⁵⁶ Commission of the European Communities, 2007d.

¹⁵⁷ Council of the European Union, 2007, pp. 16.

¹⁵⁸ <http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2007:306:SOM:EN:HTML>

¹⁵⁹ Commission of the European Communities, 2009a.

¹⁶⁰ Council of the European Union, 2009a, pp. 2.

¹⁶¹ Council of the European Union, 2009b, pp. 8.

¹⁶² Council of the European Union, 2009b, pp. 8.

¹⁶³ Council of the European Union, 2009b, pp. 8.

through clearer links to the future EU 2020 strategy and other cross-cutting strategies.”¹⁶⁴

The rather unambitious EC’s report and European Council conclusions in 2009 show that the implementation of SD in the EU level is and remains a highly political issue, strongly depending on the political will of the political leaders within the EU that is continuously challenged by more urgent short-term political challenges such as the next elections or the economic and financial crisis. A key political decision concerning the EU SDS is planned for 2011, when the European Council will decide when and if a comprehensive review of the EU SDS has to be launched.¹⁶⁵ While this opportunity could be used to reform the EU SDS and strengthen its role in the EU, the EC and the coming EU Presidencies at this point question the necessity for a separate EU SDS, in particular, due to adoption of the Europe 2020 Strategy in June 2010.¹⁶⁶

At the national level, the renewed EU SDS urges the Member States to develop NSDSs by June 2008 or to revise the existing NSDSs in light of the renewed EU SDS.¹⁶⁷ According to a 2008 report of the ESDN,¹⁶⁸ twenty-five Member States have adopted NSDSs.¹⁶⁹ Most of the Member States developed their NSDSs already around 2002 in preparation for the World Summit for SD in Johannesburg. The NSDSs thereby largely represent a ‘third-way mixture’ between the ‘planning school’ with detailed prescription of objectives and actions over a certain period and the ‘learning school’ of informal and emergent strategy formulation, which does not necessarily imply the formulation of a document.¹⁷⁰ Several Member States such as Finland and France have revised their NSDSs after the renewed SDS was adopted. Currently, about thirteen Member States, including Austria, are in the process of revising their NSDSs in order to bring them in line with the objectives of the EU SDS. The national progress reports of the Member States and the scientific discussion of the implementation of SD at the national level

¹⁶⁴ Council of the European Union, 2009b, pp. 8.

¹⁶⁵ Council of the European Union, 2009a.

¹⁶⁶ EU 2020 was adopted in 2009. It follows the EU Lisbon Strategy as an EU’s new growth strategy. For more see http://ec.europa.eu/europe2020/index_en.htm.

¹⁶⁷ Berger, 2008, pp. 13.

¹⁶⁸ Berger, 2008.

¹⁶⁹ For updated information on the state of the art of selected SD strategy features for thirty European countries is see: <http://www.sd-network.eu/?k=country%20profiles>

¹⁷⁰ Steurer / Martinuzzi, 2005.

thereby largely coincide with the EU discourse: the progress on the ground remains a serious concern that has to be met by adjusting governance for more SD.¹⁷¹

2.1.2. Pluralist and Dialogue-Based Nature of the Sustainable Development Concept

According to Arendt,¹⁷² dialogue and plurality represent the existential basis of policymaking. In her view, the nature of policymaking is grounded in plurality of human beings. This plurality results from capability of human beings to grasp their own reality, which represents only one of countless possible realities, and from the existence of a political space that allows for cohabitation of diversities as opposed to commonalities. In Arendt's view, policymaking stands for cooperative action of human beings that demands continuous preservation and defence of as many political spaces as possible. Plurality of humankind and the resulting existence of 'Unterschiedlichkeit and Andersartigkeit' and surprise are of great importance for the true politics.

Arendt¹⁷³ argues that securing the pluralist and dialogue-based basis of policymaking and preventing its perversion depends on twofold. First, it is conditioned by the capability of policymakers to acknowledge the basic differentness of human beings and their right to essential equality. This means that human beings need to be acknowledged in their individuality and uniqueness instead of being positioned in a world that offers no accommodation for an individual. This notion is opposing not only the mythical image of human being as more or less successful repetition of the same, but also the mythical understanding of politics, which considers the plurality of society and the surprise in the social processes as unwanted and disturbing. Secondly, the existence of policymaking depends from the capacity of people to acknowledge that the human being is an a-political creature, who can establish a communicative space, in which the true politics is feasible only in interaction with other human beings. As a result, the

¹⁷¹ For an overview of the implementation in the EU Member States see Niestroy, 2005 and Steurer / Martinuzzi, 2007. For a systematic overview of theoretical debate on the means and ends of the NSDSs and of the genealogy and the approaches to formulation of the NSDS in the EU see Steurer / Martinuzzi, 2005.

¹⁷² Arendt, 2003.

¹⁷³ Arendt, 2003.

meaning of the true politics is seen in freedom, which can be experienced only in intercourse with others and through allowance of dissent in one's self, as well as between one's self and the others. These considerations clearly oppose the Aristototele's interpretation of human being as a political animal ('Zoon politikon') implying that the essence of human beings is political.¹⁷⁴

From this point of view, policymaking is grounded in disputes about quality of life and the means of realizing it. In consequence, policymaking by its nature centres on controversial ideas and beliefs about the best courses of action. It may be seen as a complicated collective learning process, in which the participants advocate differing ideas in an effort to win one over another.¹⁷⁵ The discourse on SD thereby represents only one of numerous points of disputes about quality of life. The approaches to integration of the SD concept into policymaking are necessarily controversial and often opposing, as this is the essential condition for the existence of politics. Any attempt to establish a blueprint for operationalisation and integration of the SD concept into policymaking would be counter-productive and a-political.

2.1.3. Need for Sustainability Shift in Political Thinking

Policymaking is embedded in a web of social meanings produced and reproduced through discursive practices and interactions. In other words, policymaking is taking shape through socially interpreted understandings. The meanings and the discourses in which they circulate are not of the actors' own choosing or making. Interests, norms and institutional interactions thus represent a firm and closely interrelated part of discourses. Discourses give expression to the interests that are shaped by institutional interactions and framed by cultural norms. Discourses shape and control political actions as they supply them with meaning. The actions of policymakers are thus commonly based on normative concepts and images.

The behaviour of individuals, states and other actors is shaped by socially constructed rules and cultural practice. The way how individuals talk about the world, shapes their

¹⁷⁴ Arendt, 2003.

¹⁷⁵ Fischer, 2003a; 2003b.

practices. They are capable of changing the world by changing their ideas and ideologies. Socially constructed interests and identities, influenced by culture, norms, ideas, and interactions thus can change. The structural forces in policymaking are dynamic discursive entities that have only a secondary influence on policymaking.

Policymaking is guided by interest and identity that are socially constructed. Understanding the discursive struggle to create and control systems of shared social meanings, therefore, is basic to understanding policymaking. The scientific observation of this struggle has to work on two levels: on the first-order level focusing on observations, i.e., interpretations and interests of policymakers (the observed) and on the second-order level focusing on the observations of the researchers (the observant).¹⁷⁶

From this point of view¹⁷⁷, the SD concept represents a firm part of political discourse which is continuously shaped by interactions. It is framed by cultural norms and challenged by interests. The concept of SD is a socially constructed idea with the potential to change interests and identities of people that guide policymaking. The introduction of the concept of SD to policymaking importantly challenges the common notions of and ways of political thinking and forces policymakers and scholars to update their perspectives on policymaking. The adoption of the SD concept as a normative imperative of policymaking hence necessarily demands an exploration and reflection of premises and uncertainties of the common ways of political thinking. It opens the view for questions such as what is the role of identity and interests for policymaking and how can actors change their socially constructed interests and identities.

2.1.4. Potential of the Sustainable Development Concept to Guide Political Action

Ideas matter beyond interests. While Weber contests that “not ideas, but material and ideal interests, directly govern men’s conduct,”¹⁷⁸ he acknowledges that very frequently, the world image that has been created by ideas has determined the tracks along which

¹⁷⁶ Von Foerster, 1993.

¹⁷⁷ The thesis in particular draws on the radical constructivism of Von Foerster (1979; 1982; 1993, 2006); Von Foerster / Glasersfeld, 2007.

¹⁷⁸ Weber, 1948 (cit. in: Fisher, 2003, pp. 280).

action has been pushed by dynamic interests. Similarly, Orren argues that “people don’t act on the basis of the self-interest, without regard to aggregative consequences of their action.”¹⁷⁹ In his view, they are motivated by values, purposes, ideas, and goals, and commitments that transcend self-interest or group interest. Fisher¹⁸⁰ adds that political and opinion research demonstrates that ideas play a special role in the behaviour of political leaders, and that their beliefs need to be explained by ideological orientations.

Seen from this perspective, ideas are not individual properties that the actors can possess, as this is suggested by the mainstream theories of policymaking such as the rational choice theory. Rather, ideas and discourses have a force of their own independently of actors, who are in a way properties of discourse. The actions of actors and other political entities, therefore, do not only reflect the narrow self-interests as this is suggested by common political theories such as rational choice theory of policymaking. They are largely guided by shared ideas, values, norms and beliefs such as the SD concept.

Borrowing from this notion of policymaking assuming the primary role of ideas for policymaking, the thesis argues that the SD concept is an idea, value, norm and shared belief with the potential to guide political action beyond the personal interests of policymakers. It has the potential not only to guide their social construction of the world, but also to invisibly shape and organise the political discourse. As such, it can guide political actions beyond the personal interests of policymakers. In short, the concept of SD in this thesis is conceived as an inherently normative image that has the power to change the world as we know it. Metaphorically speaking, it represents a springboard or building block for political thinking, which permits otherwise vague and provisional notions about the future to take on greater clarity and form. It transmits the image of a desirable future world, i.e., the image of how the world is supposed to be. It visualises desirable social development and growth.

To sum up, the thesis is grounded on three assumptions: (1) the existential basis of policymaking is pluralist and dialogue-based, (2) policymaking is guided by interests

¹⁷⁹ Orren, 1988, pp. 3.

¹⁸⁰ Fischer, 2003b.

and identity that are socially constructed, and (3) ideas matters beyond the self-interest. From this it follows that the nature of the SD concept is pluralist and dialogue-based, that the SD concept challenges the common ways of political thinking and that it has the potential to guide political action.

2.2. Cognitive Barriers to Accounting for Discursive Nature of the Sustainable Development Concept

Mainstream policymakers severely struggle to account for the dialogue-based and pluralist nature of the SD.¹⁸¹ In particular, they encounter three main types of cognitive barriers to tackling the discursive nature of the SD concept.¹⁸²

Table 1: Cognitive Barriers to Accounting for Discursive Nature of the Sustainable Development Concept

Cognitive Challenges	Cognitive Barriers of Policymakers	Symptoms
Dynamic Nature of the SD Concept	Conception of SD as a temporally static concept.	<ul style="list-style-type: none"> - lacking capacity to account for the continuously changing meaning of SD in response to the pressing policy problems
Competing Paradigms in Disputes about Quality of Life	Conception of SD as an ideal end-stage of societal development.	<ul style="list-style-type: none"> - lacking sensitivity of policymakers for the differences and synergies between the SD discourse as well as alternative and competing development discourses - inability to open the SD concept to consideration and reconfiguration
Conflicting Sustainability Paradigms and the Interpretation Gap	Conception of SD as perspective-independent concept.	<ul style="list-style-type: none"> - lacking capacity to critically reflect ones own understanding of the SD concept in light of the numerous interpretations of the SD concept - lacking sensitivity for opposing framings of the SD concept, leading to severe political controversies and deadlock situations

¹⁸¹ See chapter 2.1.2.

¹⁸² See Table 1.

First, they tend to disregard the dynamic nature of the SD concept because they conceive it as a temporally static concept. Secondly, they fail to position the SD concept within the broader political discourse on competing development paradigms and open it for disputes about quality of life. This is because they tend to frame SD as an absolute, ideal end-state of societal development. Third, policymakers exhibit insensitivity for the often opposing interpretations SD concept by policymakers and stakeholders because they tend to understand SD as a perspective independent concept. This can lead to severe political controversies and deadlock situations.

2.2.1. Dynamic Nature of the Sustainable Development Concept

Policymakers aiming to adapt governance for more SD typically struggle to reflect and account for the continuous evolvement of the SD concept and for its inherently dynamic nature. The advancement of the SD concept has been subject to intense debate in the recent years.¹⁸³ Scholars thereby agree that its evolution represents a lively process that continuously challenges its understanding and operationalisation.¹⁸⁴ The beginning of the SD discourse is commonly positioned in 1972 when the United Nations (UN) held the first ever Conference on the Human Environment. This conference rooted in the regional pollution and acid rain problems of northern Europe led to establishment of several national environmental protection agencies and of the UN Environment Programme.¹⁸⁵ It sensitised the world community for the dangers of pollution, exhaustion of natural resources, and desertification.¹⁸⁶ The discussion was hence primarily formed by the sectoral notion of environmental pollution.¹⁸⁷ In the same year, the Club of Rome published 'Limits to Growth',¹⁸⁸ a controversial report that highlights the consequences of exceeding the carrying capacity of the natural environment. The report predicts dire consequences if growth is not slowed. It introduces a mind-shift in spatial dimensions of political thinking about environmental pollution as it redirects the focus of policymakers from local pollution to the use (and misuse) of resources in a

¹⁸³ For more on the genealogy of the SD concept in the EU discourse see Caratti/ Lo Cascio 2007.

¹⁸⁴ See Figure 1.

¹⁸⁵ International Institute for Sustainable Development, 2009.

¹⁸⁶ Rist, 1997.

¹⁸⁷ Gruber, 2005.

¹⁸⁸ Meadows et al., 1972.

global context. It also refocuses political attention toward possible global futures.¹⁸⁹ However, the report was subject to extensive critique. While the developed countries criticized the report for not including technological solutions, the developing countries were incensed because it advocated abandonment of economic development.¹⁹⁰

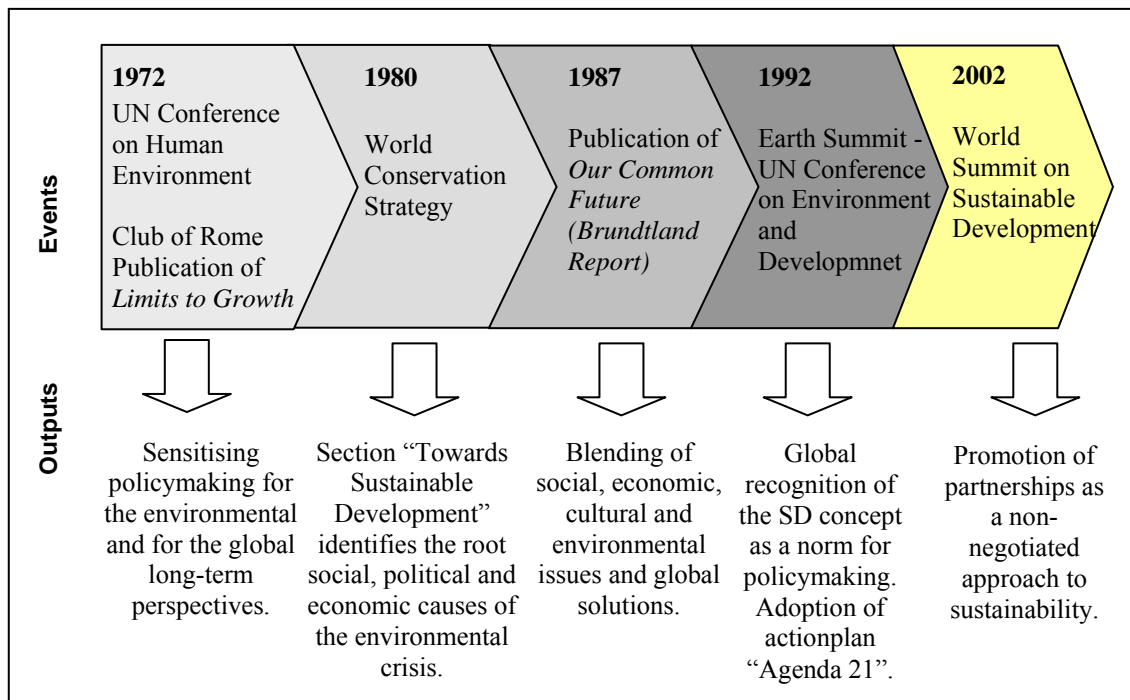


Figure 1: Sustainable Development Timeline

In the years following, the scientific consensus on the importance of ecological imbalances further specialised. Eventually, the scientific insight that damage inflicted by human activities on the environment renders these activities unsustainable triggered the need for a new worldview, which would serve as unifying basis for global consensus. This need was met with introduction of the SD concept.¹⁹¹ The term 'SD' was first given currency in 1980 by the World Conservation Strategy.¹⁹² This strategy "primarily sought to protect essential ecological processes, life-support systems and genetic diversity through the sustainable utilisation of natural resources. (...) It gave increased prominence to the root social, political and economic causes of the

¹⁸⁹ Kelly et al., 2004.

¹⁹⁰ International Institute for Sustainable Development, 2009.

¹⁹¹ Kelly et al., 2004.

¹⁹² International Union for Conservation of Nature and Natural Resources / United Nations Environment Programme / World Wide Fund for Nature, 1980.

environmental crisis.”¹⁹³ Its section “Towards Sustainable Development” identifies the main causes of habitat destruction such as poverty, demographic pressure, social inequity and trading regimes. It calls for a new international development strategy to reduce inequalities.¹⁹⁴

In 1987, the concept was reinforced and brought to the mainstream political debate when the World Commission on Environment and Development published the report ‘Our Common Future’, which is better known under the name ‘Brundtland report’.¹⁹⁵ In this report, the definition of SD contains two key concepts: first, the concept of needs, in particular the essential needs of the world's poor to which overriding priority should be given and second, the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.¹⁹⁶ Moreover, the report identifies three leading, interconnected principles of SD: (1) environmental efficiency as imperative of sustaining the natural life-support systems on the planet in response to the perceived need to stop environmental degradation and ecological imbalance, (2) intergenerational social justice as the ethical imperative of equity between generations aimed at addressing the need to avoid impoverishment of future generations, and (3) intragenerational social justice as the ethical imperative of extending the opportunity to improve quality of life of all humankind in order to promote the equity of the present-day populations. The Brundtland report stresses that environmental problems cannot be considered in isolation from other issues, such as poverty and social disintegration problem and it appeals strongly to responsibility of the present generation. The report hence blends together the social, economic, cultural and environmental issues and global solutions.¹⁹⁷

The concept became a global norm at the World Summit in Rio in 1992, where countries of the world signed the Rio declaration, in which they committed themselves to comply with the SD concept. Ever since, the SD concept became one of the leading intellectual and symbolic resources for exploration and shaping of the future. It invisibly

¹⁹³ Fien / Tilbury, 2000, pp. 3.

¹⁹⁴ International Institute for Sustainable Development, 2009.

¹⁹⁵ United Nations World Commission on Environment and Development, 1987.

¹⁹⁶ International Institute for Sustainable Development, 2009.

¹⁹⁷ International Institute for Sustainable Development, 2009.

organises and designs the policy discourse, challenging the common notions and understandings of policymaking. Furthermore, the global environmental problems became a part of development policies and studies. However, despite this progress, several important aspects such as the growth dogma and the implications of free trade were discussed only in informal preparatory meetings and were excluded from the discussions at the formal meetings.¹⁹⁸

The above line-up captures only a small fragment of the ongoing evolution of the SD concept at the global level. However, it shows in an exemplary way that the essence ('das Wesen') of the SD concept comes to surface when the idea is understood in the ontogenetic way. While the 'ontogenesis' concerns the process of becoming ('Prozess des Werdens'), the 'ontogenetics' concerns the research of this process.¹⁹⁹ In the ontogenetic perspective, the SD concept is continuously filled with content. In order to understand the essence of the SD concept, policymakers hence need to account for dynamic 'becoming' instead of the static 'being' of the SD. The question is not what is SD, but where does the SD concept come from and how does it evolve?

Instead of taking into account the procedural aspects of the SD concept, policymakers tend to understand and treat it as a ready-made solution. One of the main symptoms of the lacking capacity to account for the dynamic nature of the SD concept, among others, represents the common objective of policymakers to elaborate and rely on permanently valid blueprints for achieving SD that would apply independently from the contextual conditions. This is because the ambiguous, intangible and dynamic nature of the SD paradigm represents a source of conflict and uncertainty in policymaking that is seen by policymakers as highly discomforting. Thus they often strive to develop clear guidelines for achieving SD, which would apply equally in all countries and at all times.²⁰⁰ However, given that the SD concept is continuously disputed within the policy discourse, a universally and permanently valid blueprint cannot be given, certainly not

¹⁹⁸ Gruber, 2005.

¹⁹⁹ Von Foerster, 1993.

²⁰⁰ Kelly et al., 2004.

one that applies equally in all countries. The only point of agreement that can be achieved is “that sustainable development means different things to different people.”²⁰¹

2.2.2. Competing Development Paradigms in Disputes for Better Life

The EU policymakers largely fail to position SD within the broader political discourse on competing development and growth paradigms. This is because they tend to conceive SD as an ideal end-stage of societal development. Thus they struggle to identify the added value of the SD model of growth and its synergy with the newly emerging alternative concepts of growth. They lack the ability to open it for disputes about quality of life and find it increasingly hard to counter the growing criticisms that the SD community wants to do more of the same.

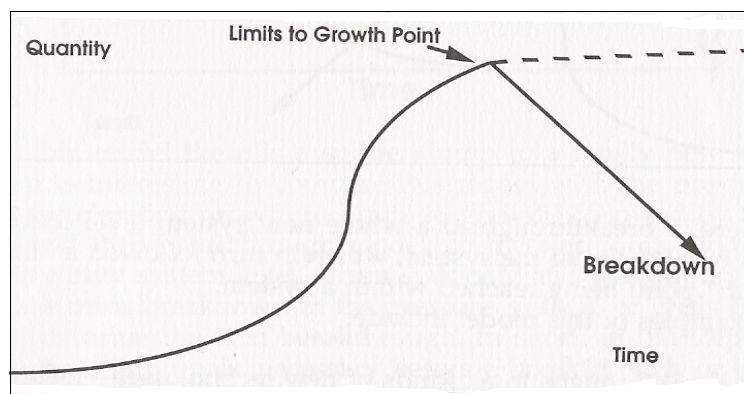


Figure 2: S-Curve (accelerating growth followed by limits to growth) leading to breakdown²⁰²

SD represents a concept of desired social transition that emerged as a response to the notion that the change in patterns of global resource use and consumption takes the form of an accelerating and exponential growth.²⁰³ This type of growth begins slowly but accelerates over time and often gets out of control before people realise that there is a problem. After the period of accelerating growth, the existing world system can reach its limits to growth.²⁰⁴ This is the state, where the environment does not contain enough

²⁰¹ Kelly et al., 2004, pp. 326.

²⁰² Groff, 2004, pp. 95.

²⁰³ Groff, 2004.

²⁰⁴ The term ‘limits to growth’ was introduced to political and academic discourse by Meadows et al (1972). For an in-depth outline of the discourse on limits to growth see Steurer (2002).

resources to support unlimited future quantitative growth economy and society. When this point is reached, it creates a major crisis of the system. The system responds to the limits to growth with an overall breakdown.²⁰⁵

The SD concept evolved to articulate concerns about the existing practices and patterns of global development which emerged over the course of the twentieth century especially with respect to the destruction of global ecosystems, and the urgent needs of the poor. The concept proposes an alternative path where development meets the needs of the present without compromising the ability of the future generations to meet their needs.²⁰⁶ In reaction to the above worst case scenario, the SD concept advocates the steady state of economic growth.²⁰⁷ It was developed and adopted by actors who worry about the increasing global population, the finite world resources, and the protection of the environment as a life support system and the creation of the foundation for economic development for the entire world population. The SD movement is also referred to as the ‘regenerative design movement’,²⁰⁸ because it recognizes that nature will regenerate itself if we take care of it and do not take from nature at a faster rate than it can replenish itself. It strives to achieve steady growth after the limits to growth are achieved and calls for responsible and adequate development policies before global consumption goes further out of control.

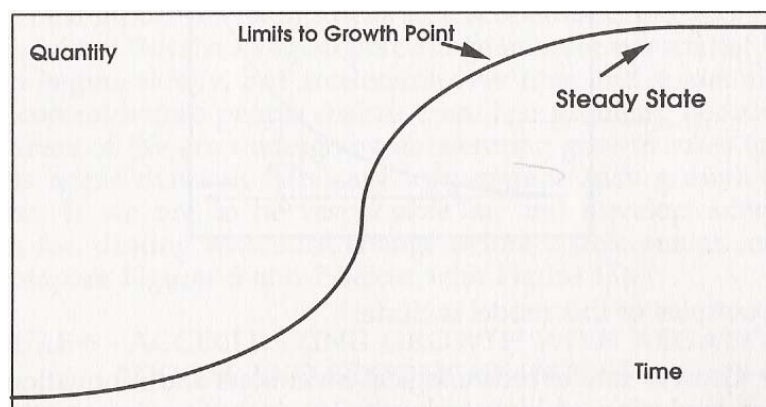


Figure 3: S-Curve (accelerating growth followed by limits to growth) leading to steady-state growth²⁰⁹

²⁰⁵ See Figure 2.

²⁰⁶ Meadowcroft et al., 2005.

²⁰⁷ See Figure 3.

²⁰⁸ For more see: <http://www.greenmarin.net/about.html>

²⁰⁹ Groff, 2004, pp. 94.

Moreover, the SD concept also opposes the increasingly popular model of growth leading to a quantum jump. This model predicts a breakthrough of a system to a completely new system due to technological change and innovation as the system's response to the limits of growth.²¹⁰ Policymakers advocating it believe that a technological innovation such as genetic engineering, nanotechnologies, resource efficient technologies or clean technologies will solve the problem of scarce natural resources. This is a legitimate and powerful argument of policymakers aiming to retain the status quo. As the breakthroughs cannot be anticipated, they offer broad space for optimist speculation about totally new emergencies (e.g., new technologies) in order to overcome the limits to growth. As such, this growth paradigm seriously undermines the SD concept.

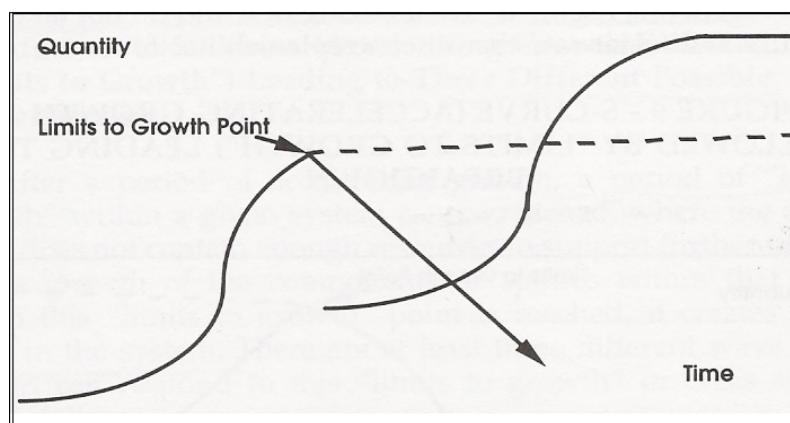


Figure 4: S-Curve (accelerating growth followed by limits to growth) leading to breakdown of the system followed by a quantum jump / breakthrough to a new system level²¹¹

The most prominent derivatives of this paradigm presently include the green economy concept and the green growth concept that entered the mainstream political debate in 2008. Currently, there are numerous initiatives in the EU with the political intention to establish the green growth concept as a new national and global development paradigm vision for the coming years. For example, the EU Environment Council in October 2009 recognised the urgency of turning the current multiple crises into an opportunity by shifting to a safe and sustainable low carbon, resource-efficient economy and stressed

²¹⁰ Groff, 2004, pp. 94. See Figure 4.

²¹¹ Groff, 2004, pp. 96.

that “a transition to an eco-efficient economy represents new business opportunities, and, given adequate framework conditions, will boost EU competitiveness and stimulate significant employment growth.”²¹² Also the EU 2020 Strategy for smart, sustainable and inclusive growth is largely informed by this model of growth.²¹³ At international level, the initiatives aimed at promoting the concept of green growth include the preparations of the Green Growth Strategy by the Organisation for Economic Co-operation and Development (OECD),²¹⁴ the Green Growth Initiative for the Asian and Pacific Region by the UN Economic and Social Commission for Asia and the Pacific,²¹⁵ as well as the Green Jobs Initiative²¹⁶ and the Green Economy Initiative²¹⁷ by the UN Environment Programme. They call for low-carbon economy and green growth as new objectives for the future economy, leading governments to increasingly invest a portion of their economic stimulus in environmental actions and measures.

The main dispositive behind the green growth concept represents the principle of ‘eco-efficiency’²¹⁸, i.e., the objective to minimise the amount of environment used per unit of economic activity. Thereby, the green growth concept implies that the Gross-Domestic Product (GDP) as an indicator for value-added money-based economic activities should rise.²¹⁹ Typical policy instruments to achieve eco-efficiency, among others, include investing in low-carbon infrastructure and research and development of green technologies, eliminating environmentally harmful policies (e.g., subsidies for fossil fuels), and promoting trade liberalisation for environmental goods and services. While the green growth concept recognises that economic growth must factor in environmental impacts (notably, climate change and biodiversity losses), it refers to SD as environmental dimension of growth. While it emphasises the environmental and economic sustainability, the social dimension is brought up solely in the context of labour markets, skills sets and education. In the SD perspective, these aspects are not

²¹² Council of the European Union, 2009a, pp. 4.

²¹³ The EU 2020 Strategy represents the follow-up strategy of the EU Lisbon Strategy aimed at preparing the EU economy for the next decade. For more see Commission of the European Communities, 2010.

²¹⁴ OECD 2009a; 2009c;

http://www.oecd.org/document/10/0,3343,en_2649_37465_44076170_1_1_1_1,00.html

²¹⁵ www.greengrowth.org/index.asp

²¹⁶ www.unep.org/labour_environment/features/greenjobs-initiative.asp

²¹⁷ www.unep.org/greeneconomy/index2.asp?id=back

²¹⁸ Council of the European Union, 2009a.

²¹⁹ Council of the European Union, 2009a.

sufficient to portray the social dimension as an integral part of growth. In particular, the green growth concept disregards the distributive and equal opportunity aspects as well as the social protection level issues (especially regarding pensions and health) that play an integral role in the sustainability context. However, policymakers largely fail to critically reflect how the green growth concept²²⁰ and other derivatives of the third model of growth²²¹ undermine or complement the SD concept.

2.2.3. Conflicting Sustainability Paradigms and the Interpretation Gap

Policymakers typically struggle to account for and acknowledge the interpretative nature of the concept for SD. They fail to critically reflect their own understanding of the SD concept in light of the numerous other interpretations of the concept. As a result, they fail to explicitly take into consideration the often opposing framings of the SD concept by other actors and partners.

Ever since the term ‘SD’ was first introduced to the global political debate, scholars and political leaders have attempted to dissect this highly ambiguous term and operationalise it for policymaking.²²² In 1997, the European Environment Agency²²³ counted over three hundred published definitions of SD. Kelly et al.²²⁴ argue that in the past decade, this number further increased. This broad range of SD definitions represents a product of diverse worldviews and competing vested interests. Several contributions in the EU discourse on the conceptual, ethical and paradigmatic issues of SD enable to bring different understandings of the SD concept to surface for conscious examination, comparison and critical reflection. Smith et al.²²⁵ for example argue that the operationalisations and definitions of SD can differ in the choice of object of sustainability. Thereby, they highlight three central approaches to operationalising SD

²²⁰ Similarly as the SD concept, the green growth concept represents a highly fluid and heterogeneous concept at the Member States, EU, OECD and international level. There is no one definition of green growth and the existing understanding and interpretations of green growth are changing in time and context. The following discussion of green growth hence outlines the central elements of green growth as commonly perceived in the current EU and OECD political discourse.

²²¹ See Figure 4.

²²² McCauley, 2008.

²²³ EEA, 1997.

²²⁴ Kelly et al., 2004.

²²⁵ Smith et al., 2001.

that are commonly applied in the EU: 1) the ‘capital approach’ focusing on the economy of sustainability,²²⁶ 2) the approach focusing on sustainability of human development (social and economic) and 3) the ‘three pillar approach’ to SD that focuses on sustainability of the environmental, social and economic system concurrently. The three pillar approach highlighting the economic, social and ecological pillar of sustainability thereby represents the most commonly adopted approach to mainstreaming SD into policymaking.²²⁷

All three above approaches to SD have one thing in common. They raise a highly disputed question of whether natural capital can be substituted by other forms of capital such as the social, economic or human capital. Referring to these questions, Kelly et al.²²⁸ locate the existing operationalisations and definitions of SD in the EU discourse along the continuum of two types of sustainability paradigm, the *weak* and the *strong* sustainability paradigm. According to Neumayer,²²⁹ proponents of the weak sustainability maintain that such substitutability of the natural capital is possible, whilst followers of the strong sustainability regard natural capital as non-substitutable. This is why the strong sustainability paradigm is often coterminous with what some call ‘ecological sustainability’²³⁰ or ‘eco-centric paradigm’²³¹ that are primarily aimed at conservation of the natural capital. The strong sustainability paradigm is also associated with a robust approach to community and social issues such as equity and active participation.

The decision for either of these two paradigms is a highly political decision as they both are subjected to severe criticism. Referring to the strong sustainability paradigm, Gremmen and Jacobs point out that “trying to direct each of the three dimensions, ecology, economy and society toward sustainable futures often results in the dilemma that the proposed solutions are incompatible with each other, i.e., that a sustainability-

²²⁶ Ekins et al., 2008.

²²⁷ Keiner, 2006.

²²⁸ Kelly et al., 2004.

²²⁹ Neumayer, 2010.

²³⁰ Kelly et al., 2004.

²³¹ Steurer, 2002, pp. 268.

oriented solution for one dimension is not sustainable for another.”²³² Keiner shares this opinion by arguing that “the main objectives of the three pillar model, i.e., produce more, distribute more justly, and preserve the future are hardly compatible.”²³³ In his view, such ideal solutions are not achievable in a closed system like our planet as - according to the second law of thermodynamics (entropy) - each increase of one value is at the same time accompanied by a decrease of another value. Also Marcuse joins this critique by pointing towards the problem that the “sustainability and social justice do not necessarily go hand in hand.”²³⁴ He points out that the programmes and policies can be environmentally and economically sustainable and socially unjust, too. Steurer²³⁵ criticises the concept of strong sustainability as out of touch with reality in an ecological as well as a political sense. Referring to the weak sustainability paradigm, Keiner²³⁶ argues that policymaking drawing on weak sustainability paradigm cannot lead to sustainability in a comprehensive sense. In his view, a solution for one dimension is sustainable only if its effects are sustainable for the other two dimensions, too.

The interpretative nature of the SD concept implies that it is of utter importance that policymakers account for different interpretations of the SD concept of all relevant stakeholders before policymakers engage in discourses and disputes about ways to move forward.²³⁷ However, chaos of definitions of SD remains one of the biggest challenges to be tackled by policymakers. As Kelly et al. argue, SD “remains a concept intuitively understood by many but still very difficult to express in tangible or operational terms.”²³⁸ One of the central reasons for the lacking capacity of policymakers to account for numerous interpretations of the SD concept represents their habit to use the SD concept in an uncritical and unreflected way. They treat it as a given, absolute and static concept. They tend to assume that their understanding and interpretation of SD is the only (right) one. Consequently, they fail to acknowledge that “what is considered sustainable is to a great extent subject to personal and societal preferences with respect to economic development, environmental quality, assessment

²³² Gremmen / Jacobs, 1997, pp. 320.

²³³ Keiner, 2006, pp. 6.

²³⁴ Marcuse, 2006, pp. 55.

²³⁵ Steurer, 2002.

²³⁶ Keiner, 2006.

²³⁷ McCauley, 2008, 157ff.

²³⁸ Kelly et al., 2004, pp. 317.

of (future) technological possibilities, and the attitude towards risks and uncertainty.”²³⁹ Thus policymakers disregard the perspectivity and selectivity of their interpretation of the SD concept and how it is embedded in different schools of political thinking.

The difficulty of policymakers to account for the interpretative nature of policy making and the plurality of understanding and operationalisations of the SD concept explicit results in what is labelled as the ‘interpretation gap’.²⁴⁰ The gap has highly negative consequences for mainstreaming SD into policymaking as it typically leads to severe political controversies and deadlock situations. There are numerous cases of the interpretation gap in empirical practice that show what happens if policymakers fail to bring different interpretations of the SD concept to surface for conscious examination in order to achieve common understanding in consensus or in difference before disputing about the ways to move forward. One such example is the French experience in the initial period of Natura 2000²⁴¹ from 1992 to 2003. It illustrates the importance of explicit accounting for different interpretations of the SD concept by all relevant stakeholders before policymakers engage in discourses and disputes about ways to move forward. On one hand, this period was characterized by a clear misunderstanding between French government and the EC regarding the interpretation of Natura 2000 objectives and principles.²⁴² On the other hand, there was confusion among different sectors in France as to the objectives and implications of Natura 2000.²⁴³ Consequently, “each policy area (agriculture, transport, fisheries) adopted its own standpoints as to what implementation of Natura 2000 should actually involve.”²⁴⁴ The Environment Ministry charged with the implementation of the Natura 2000 in France ignored this multitude of interpretations of SD by the ministries. In particular, the differences in interpretations between the Agricultural Ministry and the Environmental Ministry were

²³⁹ Kelly et al., 2004, pp. 326.

²⁴⁰ McCauley, 2008.

²⁴¹ Natura 2000 “is an ecological network of protected areas in the territory of the European Union. (...) In May 1992, the governments of the European Communities adopted legislation designed to protect the most seriously threatened habitats and species across Europe. This legislation is called the Habitats Directive and complements the Birds Directive adopted in 1979. These two directives are the basis of the creation of the Natura 2000 network of protected areas. (...) Natura 2000 protects around 18% of land in the 27 EU countries, and it can be considered almost completed in the EU terrestrial environment” (http://en.wikipedia.org/wiki/Natura_2000).

²⁴² McCauley, 2008, pp. 157.

²⁴³ McCauley, 2008, pp. 157.

²⁴⁴ McCauley, 2008, pp. 157.

disregarded. After the Environment Ministry decided to ignore the societal concerns and to focus uniquely on science, France faced a collection of infringement procedures and high profile court cases brought by the EC. The ignored interpretation gap translated into strong political controversies that eventually resulted in the official suspension of all Natura 2000 activities between 1996 and 1999. To date, France remains within the group of most problematic EU Member States in terms of implementing Natura 2000.²⁴⁵

2.3. Cognitive Barriers to Sustainability Shift in Political Thinking

It is now common notion that the SD concept severely challenges the political thinking of policymakers in the EU. Cognitive maps and logic commonly informing the political thinking largely restrict their capacity to perceive policymaking processes through sustainability lens. However, policymakers have difficulties to take the necessary self-reflexive position and critically reflect the cognitive maps and methods behind their political thinking. As a result of the lacking insight into the nature of their own political thinking, they struggle to recognise, what mind-shifts in political thinking they need to make, and how to make them in order to frame policymaking in the SD perspective. In other words, they fail to see and critically reflect the blind spots of their cognition of policymaking in the SD perspective. As Von Foerster²⁴⁶ would put it, the problem is that policymakers do not see that they do not see what they do not see. Consequently, they fail to overcome the cognitive barriers that block their view on policymaking in the SD perspective.

The current literature recognises the need for the sustainability shift in political thinking of policymakers. Thereby, it tends to come in two extremes. On one hand, it discusses in the normative way the principles of political thinking in the SD perspective²⁴⁷ while treating policymakers as a black box. It thus leaves their observing systems and cognitive barriers to sustainability shift largely out of sight. On the other hand, policymakers' cognitive barriers to translating SD into policymaking have been subject

²⁴⁵ McCauley, 2008.

²⁴⁶ Von Foerster, 1993.

²⁴⁷ Commission of the European Communities, 2005c; Council of the European Union, 2006a.

to intense debates in particular in the implementation reports on the EU SDS.²⁴⁸ However, the conceptualisation of cognitive barriers and the link to theories of cognition, theories of observer and theories of meaning are weak. Instead, the literature offers largely unsystematic, iterative lists of cognitive barriers and dilemmas that policymakers encounter when aiming to adjust governance for more SD. Only few works, which provide theoretically grounded reflection of the cognitive challenges and barriers of framing governance in the SD perspective, focus on policymakers' perception of the environmental dimension of SD, while ignoring other dimensions of SD such as the social or economic dimension.²⁴⁹

Against this background, this chapter proposes a typology of cognitive barriers of policymakers to observing policymaking in the SD perspective that should enable policy analysts to systematically explore how the multidimensional SD concept challenges the political thinking of policymakers. The typology draws on the Luhmann's²⁵⁰ theory of meaning in order to deconstruct or - as Luhmann puts it - to decompose the political thinking of policymakers. The theory offers a valuable orientation frame for exploring why and how the commonly adopted cognitive maps of policymakers are ill-adapted for observing policymaking in the SD perspective. It represents an approach to bring the cognitive maps of policymakers that influence their ability to frame policymaking in the SD perspective to surface for conscious examination.

Drawing on Luhmann,²⁵¹ the typology argues that political thinking can be explored as the experience of meaning or of meaningful action that represents a process taking place in reference to different dimensions of meaning. Luhmann thereby distinguishes three meaning dimensions, i.e., the referential structures of meaning in political thinking of policymakers. They include the temporal dimension, the fact dimension, and the social dimension. For him, the primary decomposition of meaning in general "lies then in these three dimensions, and everything else is a question of their recombination."²⁵²

²⁴⁸ Commission of the European Communities, 2007a; 2007c; 2009a; Republic of Austria, 2007.

²⁴⁹ For more see chapter 1.3.

²⁵⁰ Luhmann, 1984; 1995.

²⁵¹ Luhmann, 1984; 1995.

²⁵² Luhmann, 1995, pp. 76.

Luhmann argues that each experience of the world and the fixation of its meaning can be ordered only according to the temporal, fact and social dimension. These meaning dimensions also offer important possibilities for regulating the borders of the political sense-making. Through temporal, fact and social dimension, policymakers regulate, what problems are considered relevant, what behaviour and courses of action come into consideration in a system, and what is the behaviour that is attributed to the environment. Thereby, “each of these dimensions acquires its actuality from the difference between two horizons. Thus each is a difference differentiated against other differences. Each dimension is given as universally meaningful, which implies - formally speaking - no constraints on what is possible in the world.”²⁵³

In Luhmann’s view, the temporal dimension organises the ‘when’ as opposed to the ‘who/what/where/how’ of human experience and action. The dimension is “constituted by the fact that the difference before and after, which can be immediately experienced in all events, is referred to specific horizons, namely is extended into the past and the future. (...) Time is the interpretation of reality in light of the difference between past and future.”²⁵⁴ Setting of boundaries to time typically leads to abbreviation of the temporal horizon and consequently to the commonly known problem of ‘scarcity of time’.²⁵⁵ For example, the time between the implementation and the visible positive impacts of policies becomes scarce when a fixed boundary such as the next elections is drawn between them.

Moreover, Luhmann argues that “one can speak of the fact dimension in relation to all objects of meaningful intensions (in psychic systems) or themes of meaningful communication (in social systems).”²⁵⁶ The dimension is “constituted in that meaning divides the reference structure of what is meant into ‘this’ and ‘something else’”²⁵⁷, into ‘internal’ and ‘external’. In his view, “‘internal’ and ‘external’ present themselves as bundled references, combined in the form of horizons.”²⁵⁸ For example, policymakers

²⁵³ Luhmann, 1995, pp. 75.

²⁵⁴ Luhmann, 1995, pp. 78.

²⁵⁵ Luhmann, 1984.

²⁵⁶ Luhmann, 1995, pp. 76.

²⁵⁷ Luhmann, 1995, pp. 76.

²⁵⁸ Luhmann, 1995, pp. 77.

tend to think that they deal with things (e.g., issues, resources or money) to which they can ascribe any qualities, relations, activities or surprises. Things thereby “produce handy clues for managing references to the world.”²⁵⁹ However, “the thing schema (and correspondingly the interpretation of the worlds as ‘reality’) offers only a simplified version of the fact dimension. Things are constraints of possibilities of combination in the fact dimension.”²⁶⁰

Luhmann, furthermore, distinguishes the social dimension as a meaning dimension that enables „a constantly accompanying comparison with what others can or would experience and how other could position their actions.”²⁶¹ The social dimension refers to horizons of experience and behaviour of the others.

Nevertheless, Luhmann also argues that space represents a basic model for the development of logic and meaning that is based on the assumption that “two things cannot occupy the same place at the same time.”²⁶² He points out that space can be ‘decomposed’ as a mechanism for preventing contradictions (‘Raumstellen’). Such prevention of contradictions can take place in two ways: either as a sharp border in reference to which all is situated on the one or on the other side, but never on the both sides at once; or as a distance between two points that is closer or farther in relation to all borders. This second notion of space represents a relational notion of space.

While Luhmann’s theory of meaning facilitates the coding of the research data about the cognitive barriers of policymakers in terms of framing policymaking through sustainability lens, it fails to account for all dimensions of political sense-making that proved to be relevant in empirical practice. In order to propose a comprehensive typology of cognitive barriers of policymakers in terms of observing policymaking in the SD perspective, the thesis thus enhances the Luhmann’s model of meaning in response to research data.²⁶³ It adds two further dimensions of meaning that proved to be essential for thinking policymaking in the SD perspective. First, it distinguishes two

²⁵⁹ Luhmann, 1995, pp. 77.

²⁶⁰ Luhmann, 1995, pp. 77.

²⁶¹ Luhmann, 1995, pp. 81.

²⁶² Luhmann, 1995, pp. 385.

²⁶³ See Table 2.

sub-dimensions of the social dimension: a power²⁶⁴ and an ethical dimension of meaning.²⁶⁵ Moreover, it adds a dynamic dimension of meaning that concerns the notion of the dynamic nature of society.²⁶⁶

The power dimension concerns the space, where the decisions about the type and form of participation and inclusion of society into policymaking are made. According to Arendt,²⁶⁷ it serves policymakers to make sense of the collective action and communication and to define the political-public space for political action. In contrast, the ethical dimension of political thinking refers to the conditions under which the persons respect or disrespect each other.

The dynamic dimension concerns the way that policymakers perceive how everything around them changes and evolves. According to Von Foerster,²⁶⁸ the level of trivialization of the functional characteristics of societal phenomena is decisive for the way how policymakers observe and perceive change. With other words, the capacity of policymakers to perceive change differs in relation to the level of trivialisation of the societal phenomena that they observe. Policymakers who observe the societal phenomena as trivial machines tend to perceive change as a linear predictable process that is characterised by an invariate one-to-one relationship between its ‘input’ (stimulus, cause) and its ‘output’ (response, effect). So as to understand change, they tend to focus on the internal operations of the societal phenomena that remain in one internal state. In contrast, policymakers that conceive societal phenomena as non-trivial machines, tend to perceive change as a complex process, in which the output once observed for a given input will most likely be not the same for the same input given later. As a result, their focus is put on observing the shifts of the societal phenomena from one internal state to another in order to understand how they change. The level of trivialization, therefore, importantly determines the horizon of political thinking about

²⁶⁴ See chapter 2.4.5.

²⁶⁵ See chapter 2.4.6.

²⁶⁶ See chapter 2.4.4.

²⁶⁷ Arendt, 2003.

²⁶⁸ Von Foerster, 1979a; 1993.

global change. It regulates, what problems are considered relevant and what behaviour and courses of action come into consideration in a system.²⁶⁹

In continuation, the chapter hence outlines a six dimensional typology of cognitive barriers of policymakers to framing policymaking in sustainability perspective.²⁷⁰ It should allow policy analysts to reflect, how SD concept challenges the political thinking of policymakers at six meaning dimensions: the temporal, the spatial, the fact, the dynamic, the power and the ethical dimension. In particular, it should aid them to identify the central cognitive barriers of policymakers to adopting temporal, spatial, fact, dynamic, power and ethical horizons that enable to perceive policymaking in the SD perspective.

²⁶⁹ Von Foerster, 1979a.

²⁷⁰ See Table 2.

Table 2: Cognitive Barriers to Sustainability Shift in Political Thinking

Requirements of Sustainability Mind Shift	Cognitive Barriers of Policy Makers (exemplary list)	Symptoms of Cognitive Barriers in Policy Practice (exemplary list)
Temporal Dimension: Long-Term Futures Horizon	Structural preference of the present in contemporary democracies	<ul style="list-style-type: none"> - uncontrolled use of limited natural resources without consideration of their availability in the future - production of nuclear waste that threatens the well being of numerous future generation
	Dictate of the neoliberal paradigm	<ul style="list-style-type: none"> - global race to the bottom - developing countries focusing on short-term export-led growth - Washington Consensus policies (e.g., reliance on cheap labour, minimum regulations)
Spatial Dimension: Global Horizon of Meaning	Notion of space as an absolute entity	<ul style="list-style-type: none"> - state-centred perspective - local-centred perspective - eurocentrism
Fact Dimension: Multi-Issue Horizon of Meaning	The principle of the necessary and sufficient cause	<ul style="list-style-type: none"> - issue-centred perspective (e.g., the abbreviation of environmental policy on the climate protection and adaptation policy) - sectoral compartmentalisation of policy and regulatory responsibilities - primacy of the economic perspective (e.g., the use of GDP as the standard indicator for the overall societal development)
Dynamic Dimension: Nontrivial Notion of Change	Principle of conservation of rules	<ul style="list-style-type: none"> - trend thinking - linear model of growth - cultural contempt - overenthusiasm and disparagement of everything new
Power Dimension: Multi-Party Horizon of Meaning	Governing concept	<ul style="list-style-type: none"> - participation crisis - lacking adequate input opportunities for the individuals to interact with their society
	Positivist notion of policy making	<ul style="list-style-type: none"> - interpretative gap - predefinition of policy problems
Ethical Dimension: Micro-Ethical Horizon	Concept of representative democracy	<ul style="list-style-type: none"> - absence of direct participation
	'I will, if you will' mentality	<ul style="list-style-type: none"> - deadlock in political negotiations and debates (e.g., the climate efforts sharing debate between the EU member states and between the industrial and developing states)

2.3.1. Mind-shift in Temporal Dimension

The SD concept introduces the necessity for a mind-shift in the notion of the temporal dimension of political thinking.²⁷¹ According to Kelly et al.,²⁷² by advocating *intergenerational* justice, the concept explicitly expresses the necessity of accounting not only for the well being of the present but also of future generations. Almost all published definitions of the concept are generally motivated by a real concern for the long-term well-being of humanity. Furthermore, Grunwald²⁷³ argues that by highlighting the need to care for ecosystems as well as for people, the concept advocates the need for adopting temporal horizon that extends decades, centuries and beyond. The concept spans both, the human time scale and the ecosystem-based temporal horizon. It implies that problems of sustainability can be ascertained only by observing specific parameters over long periods of time. Hardi and Zdan²⁷⁴ thus point out that the SD concept stresses that policymakers need to adopt the multigenerational temporal horizon, meaning that the long-term implications of decision making are considered and anticipated.

However, the research data show that while the present and short-term orientation represents the primary temporal horizon of policymakers, the concern for the long-term implications of policymaking is a novelty and a great challenge for policymakers. One of the most commonly perceived cognitive obstacles to adopting a long-term perspective in political thinking represents the inherent tendency of contemporary democracies to prefer the present and neglect the future. For example, each national political party faces the necessity to win majorities in short intervals and to orient itself towards the interests of the voters. The next generations cannot participate in the process of procurement of majorities. Policymakers hence feel little pressure to consider long-term perspectives. In contrast, there is a common belief that who thinks further than to the point of next elections and strives for a long-term oriented policymaking, has a competitive disadvantage in relation to the political competitors who promise short-

²⁷¹ See Table 2.

²⁷² Kelly et al., 2004.

²⁷³ Grunwald, 2004.

²⁷⁴ Hardi / Zdan, 1997.

term benefits.²⁷⁵ Consequently, policymakers tend to give priority to immediate issues in order to retain power and largely disregard the long-term implications and consequences of policy strategies and measures for the common wealth of future generations. The uncontrolled use of limited natural resources without consideration of their availability in the future or the production of nuclear waste that threaten the well being of future generation represent typical symptoms of such neglect of the long-term implications of policy decisions.

Another often perceived cognitive barrier to intergenerational political thinking represents the subservience of policymakers to the neoliberal dictate at all levels of policymaking. For example, the neoliberal economic theories produced today's economic globalisation as well as the international financial institutions such as the International Monetary Fund, the World Bank and the World Trade Organisation.²⁷⁶ These financial and trade institutions and other major economies forums such as G7²⁷⁷ and G8²⁷⁸ today have considerable impact on policymaking. Henderson²⁷⁹ for example points out that the World Bank's advice, which was based on the neoliberal paradigm that is characterised by a short-term profit-oriented view, led developing countries to focus on short-term export-led growth and resulted in many of today's glutted markets in commodities, from coffee to computer chips. She argues that the resulting "short-term strategies, often with tax holidays, export platforms, and reliance on cheap labour, minimum regulations, and all the other Washington Consensus policies, have led to today's global 'race to the bottom'".²⁸⁰

To conclude, the concept of SD represents a normative concept and symbolic resource, which makes it possible and even necessary to consider long-term futures. It refers to both, present and future generations, and it is generally motivated by a real concern for the long-term well being of humanity. With other words, the paradigm of SD calls for

²⁷⁵ Tremmel, 2005a; 2005b.

²⁷⁶ Henderson, 2004.

²⁷⁷ G7 is a group of seven industrialized nations of the world, formed in 1976 when Canada joined the Group of Six (USA, France, Germany, Italy, Japan, United Kingdom).

²⁷⁸ G 8 is a group of eight industrialized nations of the world formed in 1997, when the G7 was joined by Russia.

²⁷⁹ Henderson, 2004.

²⁸⁰ Henderson, 2004, pp. 305.

redirecting the political attention to long-term perspectives in addition to short- and middle-term perspective on policymaking. The SD concept urges policymakers that every human interference into the ecological, economic and social systems has to be reflected in relation to its long-term futures impact. Thus sustainability is often discussed also as a ‘futures competence’ of policymakers.²⁸¹ However, so as to develop such sustainability competence, policymakers need to emancipate themselves from several cognitive maps that inform the temporal dimensions of their political thinking such as for example the notion of the contemporary democracy model or the neoliberal paradigm. For they tend to fuel and legitimise the short-term horizon of political thinking.

2.3.2. Mind-shift in Spatial Dimension

The SD concept introduces the necessity for a mind-shift in the spatial dimension of political thinking.²⁸² By referring to the intragenerational interdependence and by advocating social justice for all humankind, the concept embraces global thinking. It (re)directs the attention of policymakers toward global extensive interconnections across space. It refers to the necessity to consider a bigger, global picture in addition to the commonly adopted narrower spatial horizons, including the local and the national horizon. It urges policymakers to integrate the effects of key policymaking processes across the full range of scales from local to global.²⁸³ In short, the SD concept demands the adoption of space horizons that would enable a comparative evaluation of policymaking at different spatial levels in order to recognise the trade-offs of policies and to achieve what is commonly referred to as the ‘vertical policy integration’.²⁸⁴

This plea for political thinking in a global context is informed by “the ethical postulate to not pass on the social and ecological costs caused by own prosperity to other countries. In this respect, the SD concept calls for fairness between north and south. If goods are imported from other countries, we must not close out eyes to the

²⁸¹ Institut für Umwelt-Friede-Entwicklung, 2005, pp.3.; Glenn / Gordon, 2005.

²⁸² See Table 2.

²⁸³ Bolin et al, 2000.

²⁸⁴ OECD, 2002, pp. 141 / Steurer, 2007.

environmental and social conditions that prevail in the extraction of those raw materials.”²⁸⁵ It is also based on the fact that, in the age of globalisation, living conditions in all parts of the world are highly interdependent. For example, a decision made by citizens in the EU Member States has an impact on the living conditions in developing countries. At the same time, poverty and environmental damage of other continents affect EU Member States through increased migration or regional conflicts.²⁸⁶

In the SD context, policymakers are expected to make comparative evaluation of policies not only at the global, national, or local scales, but also to account for other relevant spatial levels of policymaking regarding available options and alternative actions for the healthy development of their respective societies such as for example the regional level or the metropolitan-area level, representing increasingly relevant networks of social relationships expressed in space. However, the existing spatial horizons of policymakers are often ill-adapted for taking into account the global interrelations and interdependencies across space.²⁸⁷

The central cognitive barrier represents policymakers’ notion of space as an absolute entity, as opposed to the notion of space as a relative and relational entity. This notion derives from Newton’s physics and mechanics.²⁸⁸ It considers space as an unlimited physical and empirical entity that exists by itself and that is independent from things and human experience. Consequently, space is considered as something fixed. Policymakers tend to visualise space in a geometric way, either as a three-dimensional container (global-national-local) or as a two-dimensional area (national-local). Space thereby exhibits borders within which policymakers tend to uncritically assume uniform patterns: „Es gelten die gleichen Gesetze, es agieren ähnliche AkteurInnen, Unternehmen und Arbeitskräfte verhalten sich ähnlich, was zur Folge hat, dass die wirtschaftlichen Kennzahlen ähnlich sind.”²⁸⁹ Depending on how and where the borders

²⁸⁵ The Federal Government of Germany, 2008, pp. 20.

²⁸⁶ The Federal Government of Germany, 2008.

²⁸⁷ Niu / Lu / Khan, 1993.

²⁸⁸ See Table 3.

²⁸⁹ Novy / Jäger, 2005.

between the spaces are drawn, different space containers (,Behälterräume'²⁹⁰) arise; local, national and international. These containers of power (‘Machtbehälter’²⁹¹) are then filled with things, people and relationships.

There are numerous symptoms of policymakers’ absolute notion of space. One of the most commonly perceived symptoms for example represents the state-centred perspective of policymakers. Even when they acknowledge the importance of the global view, they continue to assume the primacy of states in the governance context. This clearly makes it impossible for them to perceive and grasp the increasing ‘*extensive* global interconnections’²⁹² across space. The state-centred perspective severely diminishes their competence to make decisions that promote intragenerational justice.

Another symptom of the absolute notion of space represents the tendency of policymakers to adopt a local-centred perspective. Downs²⁹³ argues that being motivated to maximize the welfare of their own constituents, policymakers tend to disregard the impacts on residents of other localities. This leads to a range of environmental and social problems, including for example traffic congestion, air pollution, inadequate provision of new infrastructures, shortages of affordable housing in the metropolitan periphery, and problems related to the concentration of poverty in the ghettos such as high crime rates, poor quality public schools and failure to integrate workers into the mainstream work force in the older core areas. In this context, states are often too large, and localities too small in order to fit current regional realities and to tackle the policy issues in sustainable way.²⁹⁴

Nevertheless, ‘eurocentrism’²⁹⁵ as a derivate of ‘ethnocentrism’²⁹⁶ is another commonly perceived consequence and symptom of the absolute notion of space of policymakers. They often tend to place an emphasis on European or Western concerns, culture and

²⁹⁰ Novy, 2002b.

²⁹¹ Novy, 2002b.

²⁹² Rosenau, 1995.

²⁹³ Downs, 1997.

²⁹⁴ Downs, 1997.

²⁹⁵ Amin, 1989.

²⁹⁶ Kreisky, 2003b.

values at the expense of those of other cultures. This severely hinders any type of global partnership as promoted by the SD concept.

To conclude, the concept of SD demands an enhancement of the spatial horizon of political thinking in order to allow for vertical policy integration, i.e., for simultaneous consideration of implications of policymaking at different spatial levels. However, as it was shown, the spatial horizons of policymakers deriving from the absolute notion of space clearly disable their account for the geographic realities of the world as framed through sustainability lens. The adoption of the SD concept demands an emancipation of policymakers from the notion of space as an absolute and static entity. Instead, it demands a mind-shift toward the relational notion of space as a fluid entity that is constructed in the heads of policymakers and that they should continuously critically reflect in response to policy problems and contexts.

2.3.3. Mind-Shift in Fact Dimension

The SD concept introduces the necessity for a mind-shift in the fact dimension of political thinking.²⁹⁷ It advocates the importance of simultaneous consideration of economic growth, environmental protection and social equity in policymaking. Furthermore, it highlights the necessity to study the reciprocal effects between these three political areas and turns it into a guideline for political action.²⁹⁸ By underlining the need of adopting a multi-issue, macro or multi-sectoral approach to policymaking, the concept introduces the necessity for what is commonly referred to as horizontal policy integration. Thereby, policymakers answer the question of whether natural capital can be substituted by other forms of capital such as the social, economic or human capital differently - depending on the point of reference, i.e., the strong or the weak sustainability paradigm.²⁹⁹ Proponents of weak sustainability maintain that such substitutability is possible, whilst followers of strong sustainability regard natural capital as non-substitutable.³⁰⁰

²⁹⁷ See Table 2.

²⁹⁸ The Federal Government of Germany, 2008.

²⁹⁹ See chapter 2.3.3.

³⁰⁰ Ekins et al., 2008.

According to research data, policymakers struggle to adopt an integrated macro approach to policymaking due to several cognitive barriers. First, policymakers usually rest their cognitive functions on what Von Foerster³⁰¹ calls ‘the principle of the necessary and sufficient cause’. This principle forces policymakers to reduce their perception of effects of policymaking further and further until they have hit upon the “necessary and sufficient cause that produces the desired effect: everything else in the universe shall be irrelevant.”³⁰² When a system or a problem is too complex in order to be understood, then policymakers tend to mince it into smaller pieces. If these pieces are still too complex, they are minced until the pieces are so small that at least one of them is understandable to policymakers. However, this method clearly prevents policymakers to develop an integrative, holistic political thinking as advanced by the concept of SD.

The literature points toward a range of symptoms of the political thinking that is based on the principle of the necessary and sufficient cause. One of the most commonly perceived symptoms is the primacy of the issue-centred perspective in political thinking. Policymakers typically focus on one issue and can be overwhelmed by the difficulty of addressing multiple interdependent issues on a global basis.³⁰³ Such issue-centred perspective can have severe negative consequences for SD. For example, the increasingly popular abbreviation of environmental policies to reducing the greenhouse gas emissions provides legitimacy to the recent renaissance of nuclear power in the EU. It enables policymakers to frame nuclear power a clean and even sustainable energy technology that enables to achieve the EU climate goals in a timely way and that has a positive impact on environment. The exclusive focus on the effects of the nuclear power for tackling climate change disregards the severe negative long-term environmental impacts such as the burden of nuclear waste. Another example represent the recent debates on biofuels in the EU that took place without a sufficiently broad assessment of their potential impact on land-use, biodiversity, food prices and the overall impact on all emissions that contribute to climate change. By advocating the necessity of an account for the transversal nature of policymaking, i.e., for a cross-cutting approach to

³⁰¹ Von Foerster, 1979a.

³⁰² Von Foerster, 1979a, pp. 4.

³⁰³ Glenn / Gordon, 2005.

policymaking, the concept of SD challenges such reductionist, single issue-centred political thinking.

Another symptom of political thinking that is based on the principle of sufficient cause represents the traditional sectoral compartmentalisation of policy and regulatory responsibilities ('Ressort-Politik') in the EU and its Member States and in the EU. For example, the current structures of the EC, the Council and the European Parliament committees do not allow a sufficiently coherent policy response to new major policy challenges, cutting across the traditional sectoral policy compartments. Similarly, the OECD argues that "the evolution of the modern state has been toward an increasing degree of sectoral specialisation, in order to respond more effectively to complex and differentiated problems."³⁰⁴ However, by demanding political thinking that cuts across the traditional sectoral policy compartments, the SD concept implies the necessity to re-design governance of the EU and Member State governments.

The principle of sufficient cause also fuels the primacy of economic perspective in political thinking of policymakers. The most visible example of the primacy of economic perspective in the EU discourse represents the tendency to view economic globalisation from the perspective of states and markets, i.e., to observe globalisation as a worldwide tilt from the state to the market.³⁰⁵ Policymakers observing economic global change typically tend to uncritically examine only the linear and one-way dependence of the state from the internationalisation of the world market. Another example represents the uncritical reliance of policymakers on GDP³⁰⁶ as the standard indicator for the overall societal development.³⁰⁷

³⁰⁴ OECD, 2002, pp. 141.

³⁰⁵ Hewson / Sinclair, 1999.

³⁰⁶ GDP (Gross Domestic Product) = private Consumption + Investment + Government Consumption + (Exports – Imports). The framework and rules on how to calculate it are listed in the European System of accounts which is broadly consistent with the UN System of National Accounts.

³⁰⁷ GDP represents the best known measure of macro-economic activity, whose history goes back to the 1930ties. At the time, there was a strong need felt by governments to be able to measure the activity in the economy, i.e., the national production or income. GDP aggregates the value added of all money-based economic activities and is based on a clear methodology that allows comparisons to be made over time and between countries and regions. However, over the years GDP evolved to a "proxy indicator for overall societal development and progress in general" (Commission of the European Communities, 2009a, pp. 2). Several policy decisions and instruments in the EU are based on GDP. For example, in the current political discourse on the economic downturn and on the challenges of restoring economic

The GDP was originally conceptualised as a measure of macro-economic activity. Thus it fails to measure environmental sustainability and the social inclusion that represent central elements of the SD concept.³⁰⁸ Wijkman hence warns that by measuring societal progress in terms of the GDP is too narrow and it sends the wrong signals to society. He argues that “most people seem to think that everything is fine as long as consumption increases. That may have been a reasonable way of measuring progress when living conditions were poor and economic activity was limited and nature was plentiful. But this is no longer the case.”³⁰⁹ Referring to GDP, Gorbachev points out that “capital accumulation and individual consumption are (...) given a primary status in relation to social and spiritual values or cultural heritage. Ideology and policies of the neo-liberal globalism initiated by the countries that have benefited most from globalisation make this trend that much stronger. The cumulative results of all the individual decisions based on this logic in the long run lead to unforeseen and dangerous consequences.”³¹⁰ Due to its short-sightedness, the GDP model of growth causes severe social costs, waste and ecological destruction.

To conclude, the SD concept empowers the integrated macro approach to policymaking. However, the policymakers’ tendency to rest their cognitive functions upon the principle of the necessary and sufficient cause is highly counter-productive in contemplating the multiple dimensions of policymaking. In order to frame policymaking in the SD perspective, policymakers thus need to make a mind-shift from such reductionist approach to political thinking toward an enhanced, integrated, macro approach to policymaking.

2.3.4. Mind-shift in Dynamic Dimension

The SD concept as a development-oriented approach highlights the necessity for transformation of the way in which governments think the societal systems and the

growth, GDP growth represents a key indicator to assess the effectiveness of the EU and national governments’ recovery plans (Commission of the European Communities, 2009a).

³⁰⁸ For more on limitations of the GDP in the SD perspective see Stiglitz et al., 2009.

³⁰⁹ Wijkman, 2007, pp. 138.

³¹⁰ Gorbachev, 2006, pp. 155.

dynamics of societal change.³¹¹ According to Groff,³¹² it represents a concept of desired societal transition that evolved as a response to the alarming finding that the change in patterns of global resource use and consumption takes the form of an accelerating and exponential growth.³¹³ As a response, the concept calls for a steady state of societal growth as a system's response to the limits of growth.³¹⁴ Instead, the SD concept advocates a holistic, systemic notion of societal systems as a 'non-trivial machine'³¹⁵ or non-linear system, whose development represents a complex non-linear process, in which the outputs for a given input will most likely not be the same for the same input given later. Gordon, Glenn and Jakil argue that „linear systems can be stable (that is, when perturbed, the system settles to some stable value), can oscillate (that is, when pertubated, the system settles into a periodic cycle), or can be unstable (that is, when pertubated, the system movements become very large and continually increase or decrease). When the systems are non-linear, however, a fourth state of behaviour can be triggered; chaos. In this state, the system appears to be operating in random fashion, generating what appears to be noise. In this state, the system behaviour is still deterministic but essentially unpredictable.”³¹⁶ The SD paradigm thus challenges the common conception of societal transition as a linear predictable process that is characterised by the invariant input-output. Consequently, the SD concept, among others, points towards the necessity to observe the dialectic implications of linear growth for the well-being of societies and to perceive societal transition as a qualitative change, e.g., as a change of the subject-object and subject-subject relationships.

However, the tendency of policymakers to rest their observation of the societal evolution on the 'principle of conservation of rules'³¹⁷ represents one of the central cognitive barriers to contemplating qualitative growth, i.e., the transition of society in the SD perspective. This principle suggests that the rules observed in the past shall apply to the future. In this perspective, the concept of 'societal change' as suggested by

³¹¹ See Table 2.

³¹² Groff, 2004.

³¹³ See chapter 2.3.2.

³¹⁴ See Figure 3.

³¹⁵ Foerster, 1979a.

³¹⁶ Gordon et al, 2005, pp. 1066.

³¹⁷ Von Foerster, 1979a, pp. 4.

the SD concept is inconceivable, for change in the SD perspective is the process that obliterates the rules of the past.

Scholars point out several symptoms of the tendency of policymakers to ground their political thinking on the principle of conservation of rules.³¹⁸ For example, a completely new branch of business has emerged in the EU that aims at predicting the future by applying the rules of the past in order to protect the society from the dangerous consequences of change. These experts are commonly referred to as the ‘futurists’. Their expertise is highly counter productive in terms of promoting SD: “Their job is to confuse quality with quantity with quantity, and their products are ‘future scenarios’ in which the qualities remain the same, only the quantities change: more cars, wide highways, faster planes, better clean technologies etc. While these ‘future scenarios’ are meaningless for understanding the non-linear nature of changing world as advanced by the SD concept, they represent a lucrative business for entrepreneurs, who sell them to the corporations that profit from designing for obsolescence.”³¹⁹

Trend thinking represents another symptom of political thinking that is grounded on the principle of conservation of rules. The basic postulates of trend-faith are “unchanging change and unchanging non-change.”³²⁰ While policymakers acknowledge the existence of social change, they thus believe that a certain object of observation has changed according to a certain pattern (i.e., it followed linear or exponential growth, cyclical fluctuations, or come combinations of them), and that the same pattern will hold true in the future, too. With other words, trend thinking is guided by the assumption that structures do not change. Mannermaa hence argues that “structural changes or breaks, such as the system break due to limited natural resources, therefore, remain outside the reach of trend thinking.”³²¹ The trend thinking disregards the question of limits to growth and naively assumes the self-sustaining nature of growth. This is why it clearly represents a barrier to adopting the concept of SD that implies to sustain the natural life support systems on the planet.

³¹⁸ Groff, 2004; Mannermaa, 2004.

³¹⁹ Von Foerster, 1979a, pp. 5.

³²⁰ Mannermaa, 2004, pp. 44.

³²¹ Mannermaa, 2004, pp. 44.

Another commonly perceived symptom of political thinking based on the principle of conservation of rules represents the linear model of growth. Groff³²² describes this model as one of the most popular expressions of unchanging change in political thinking. In this model, the future has typical characteristics. It is seen as more of the past; i.e., as an extension of past trends. It is predictable, i.e., there are an equal absolute number of units of increase per unit of time. Moreover, it is unlimited in nature. Such linear model of growth informs numerous worldviews, which traditionally inform contemporary policymaking. Drawing on Groff,³²³ several depleted worldviews represent the main cognitive barriers of policymakers to make mind-shifts toward a comprehensive approach to growth. First, policymakers often take a Western cultural worldview from the 19th century assuming that linear progress is the norm and that the future is predictable and that it always represents an improvement upon the past. Secondly, many policymakers tend to perceive the world through the Darwin's theory of biological evolution positing that biological evolution from one species to another was via slow change. Its derivatives in the social sciences include evolutionary theories of social change, which assume that social change is a slow and gradual change from one system to another and informing phase models of change. Nevertheless, policymakers also often rely on the Newtonian (or 19th century physics) model of reality that interprets the universe as a clockwork machine, where a change in A always leads to predictable change in quantity of variable B. In consequence, they disregard the possibility of uncertainty and unpredictability. They strive to control societal change by considering all structural or unpredicted changes as bad.³²⁴

Borrowing from Mannermaa,³²⁵ the 'cultural contempt' represents another commonly perceived symptom of the lacking capacity of policymakers to think societal change in the SD perspective. Due to past success of the actor or the system in question, like government, national culture, neoliberal economy or a dominating company, policymakers are tempted to think that they are so good that they don't have to try new

³²² Groff, 2004.

³²³ Groff, 2004, pp. 87.

³²⁴ Groff, 2004, pp. 87.

³²⁵ Mannermaa, 2004.

concepts. This kind of political thinking for example reduces the sensitivity of policymakers to their own vulnerability due to their dependence on the scarce natural resources.³²⁶ A typical case of such cultural contempt represents the advocacy of the ‘wealth centred economy’,³²⁷ the growth of which is primarily based on prosperity created earlier. The cultural contempt hence clearly limits the ability of policymakers to make a sustainability shift in their political thinking.

Another attitude toward change and future that is fuelled by the principle of conservation of the rules and that reduces the ability of policymakers to frame policies in the SD perspective is the policymakers’ overenthusiasm of everything new. According to Mannermaa,³²⁸ this thinking pattern is based on the belief that a major technological or other breakthrough will bring the system faced with limits of growth to a whole new system level.³²⁹

All in all, the mind-shift toward thinking societal transition in the SD perspective is related to the capacity of policymakers to explicitly account for the limits to growth and to integrate all externalities of policymaking. Thinking societal transition in the SD perspective severely challenges the tendency of policymakers to rest their cognitive function upon the principle of conservation of rules that proved to be highly counter-productive in contemplating the society in transition from the SD perspective.

2.3.5. Mind-shift in Power Dimension

The concept of SD introduces the need for a mind-shift in the power dimension of political thinking of policymakers.³³⁰ By advocating what is commonly referred to as multi-actor and multi-stakeholder approach, it calls for a new power ambience of policymaking, i.e., of the relationship between the state and citizens.³³¹ It urges policymakers to involve a balanced and broad range of stakeholders in the policymaking

³²⁶ Mannermaa, 2004.

³²⁷ Porter, 1991.

³²⁸ Mannermaa, 2004. See Figure 4.

³²⁹ For more see chapter 2.2.2.

³³⁰ See Table 2.

³³¹ Interview with Spangenberg, 2008; Interview with Trattnigg, 2007.

processes, who differ in their disciplinary focus and sectoral (natural and social scientists) as well as geographic background (third and first world countries, local, national, EU and global background), in their age (youngsters and elderly people), gender (women and men), and in their social status (including the ‘underdogs’ of society), always in response to the distinct policy problems and policy context. It calls for political steering that involves public and private actors and including traditional hierarchical as well as non-hierarchical modes of government. Thereby, the SD concept turns the focus of policymakers towards observing the changing levels of power and influence among conflicting actors and towards exploring the relationship between state intervention and societal autonomy.

However, policymakers encounter several cognitive barriers to accounting for the multi-actor horizon of policymaking.³³² The conception of policymaking as traditional state-centred, hierarchical ‘governing’ represents the central cognitive barrier to embracing the multi-stakeholder approach to policymaking as advanced by the SD concept.³³³ According to Benz,³³⁴ at the polity level, policymakers informed by the traditional notion of policymaking as ‘governing’ for example typically focus on the role of the national state, while neglecting the integrated approach to policymaking. At the politics level, they tend to focus on the competition for power and influence between political parties and interest groups and on the conflict resolution by governmental bodies, while ignoring the conflicts between the governing/leading and the governed/affected actors and the negotiation solutions and adaptations of institutional control systems. Nevertheless, at the policy level of policymaking, policymakers informed by the governing model of policymaking are primarily concerned with questions of legislation and the distribution of public services, while neglecting the questions of communication and compromises as well as network management.

The participation crisis represents one of numerous symptoms of the restricted notion of policymaking as ‘governing’ that is typical for political thinking of mainstream

³³² For an overview of the EU debate on governance see Treib et al., 2005. For an overview of the global governance debate see Pattberg, 2006.

³³³ Eberhard et al, 2006.

³³⁴ Benz, 2004.

policymakers. It is characterised by missing adequate input opportunities for the individuals to interact with their society. In consequence, the individual is increasingly excluded from participation in policymaking processes: „Die Gesellschaft wird zum ‚System‘, zum ‚Establishment‘ oder was auch immer, zu einem unpersönlichen kafkaesken Monster von eigensinniger Böswilligkeit.“³³⁵ Due to absence of feed-back channels, the system is growing over the heads of the individuals.

Another commonly perceived barrier represents the positivist notion of policymaking that leads to what is often referred to as the ‘interpretation dilemma’.³³⁶ For example, policymakers tend to inform the public about policy problems, policy decisions and policy solutions in a technical political language, i.e., as if information speaks for itself. Thereby, they disregard the existence of the ‘epistemological and interpretative gaps’³³⁷ between different communities (e.g., citizens, politicians, and administrators) leading to severe political controversies and deadlock situations.³³⁸ Such technical rationality is informed by the positivist conception of reality, ignoring the importance of social values of people, including of role of narrative storytelling about policy problems.³³⁹ As a result, policymakers fail to communicate across the discursive barriers of different discourse coalitions.

Moreover, when interacting with stakeholders, policymakers tend to involve them in the processes of policy implementation and evaluation of policy outcomes, while excluding them from the processes of the problem recognition and policy formulation. They largely disregard that the action taken to solve the problem largely depends on the definition of the problem. Even more, they fail to see that both, the definition of the problem and of the action to solve it, largely depend on the view which individuals or groups that discovered the problem have of the system to which it refers.³⁴⁰ Policymakers hence typically have a positivist notion of policy problems as given.

³³⁵ Von Foerster, 1993, pp. 344-345.

³³⁶ McCauley, 2008; Russel, 2007.

³³⁷ Fischer, 2003b. See chapter 2.3.3.

³³⁸ See chapter 2.2.3.

³³⁹ Lösch, 2005.

³⁴⁰ Von Foerster, 1979a.

To conclude, policymakers need to change their understanding of the power ambience of policymaking in order to frame policymaking in the SD perspective.³⁴¹ In particular, they need to emancipate themselves from the tendency to think policymaking as ‘governing’ and from their technical positivist notion of policymaking and conceive it as multi-actor governance and as a discursive value-loaded interpretative process instead.

2.3.6. Mind-shift in Ethical Dimension

The SD concept introduces the need for a mind-shift in the ethical dimension of political thinking.³⁴² By pointing towards the necessity for privatisation of personal responsibility, the concept of SD raises fundamental questions of social and political responsibility in political processes.³⁴³ The concept urges policymakers to recognize the autonomy of every individual in order not to promote a society that attempts to honour commitments and forgets about its responsibilities. The SD concept also advocates a new ethic of responsibility in time and in space.³⁴⁴ By pleading for intragenerational responsibility, it highlights the necessity of the ethics of responsibility for all humankind, i.e., for a comprehensive, value-oriented awareness of each one of us. It calls for responsibility of each individual for the common - social, environmental and economic - wealth. In particular, it demands a commitment to assess the personal and societal levels of consumption in terms of environmental and social justice. It also advocates a devalorisation of material values as well as the genesis and return of non-materialistic values to ensure human living conditions.

The ethical propositions of the concept of SD severely challenge the existing ethical horizon in political thinking of mainstream policymakers. In particular, the concept of representative democracy and the ‘I will if you will’ mentality represent severe cognitive barriers to their mind-shift in the ethical dimension of political thinking.

³⁴¹ Rüdiger, 1992.

³⁴² See Table 2.

³⁴³ Cf. Comfort, 1999.

³⁴⁴ In this thesis, responsibility is conceived as a relational variable that is always ‘owned by someone’ and that relates to something or someone. It is conditioned by the notion of personal or collective power to change, shape or make the future (as opposed to powerless and resignation).

The concept of representative democracy largely deprives civil society from its personal responsibility for (global) commonwealth due to its structural characteristics such as absence of direct participation and influence of civil society and citizens in policymaking processes. This is because the concept implies that responsibility for global and common wealth is primarily national and state phenomenon, which lies in the hands of states and governments and thus does not concern civil society or individuals.

Moreover, policymakers involved in SD often exhibit the ‘I will if you will’ mentality.³⁴⁵ They are primarily concerned with comparing their efforts to promote SD with the efforts of other EU Member States and industry and international community. Typical symptoms of this mentality for example include the ongoing debates on effort sharing among EU Member States regarding the implementation of the EU climate and energy package and between developed and developing countries in the global fight against climate change in the international debates on the post-Kyoto Agreement. Such mentality of policymakers leads to severe deadlocks in terms of implementing SD.

To sum up, the above typology of cognitive barriers of policymakers to framing policymaking in the SD perspective is not an exhaustive one.³⁴⁶ Although the discussed dimensions of political thinking that are challenged by the SD are highly interdependent, they were discussed separately only for the reasons of analytical clarity. The typology does not illuminate how setting of borders in one dimension of political thinking (e.g., the abbreviation of temporal horizon of political thinking) restricts and influences the borders in other dimensions of political thinking (e.g., the issue-orientation determining the choice of relevant issues). For example, the advocacy of the re-privatisation of individual responsibility for common wealth (ethical meaning dimension) is closely related with its plea for a shift in approach to participation that encourages a more proactive role of civil society and requires from stakeholders to

³⁴⁵ For more on the ‘I will if you will’ mentality in context of sustainable consumption see Sustainable Development Commission / National Consumer Council, 2006.

³⁴⁶ See Table 2.

promote collective responsibility for actions (power meaning dimension). These issues represent important points for further research.

3. Observing Global Change in Sustainable Development Perspective: Cognitive Challenges and Chances

*The definition of a problem and the action taken to solve it
largely depend on the view which the individuals
or groups that discovered the problem have
of the system to which it refers.
(Brün, 1971)*

Policymakers struggle to adapt governance for more SD not only due to their limited capacity to account for the discursive nature of the SD concept, but also because the concept severely challenges the predominant modes of political thinking.³⁴⁷ The previous chapter shows that the SD concept demands a new dimensionality of political thinking and argumentation. Policymakers need to rethink temporal, spatial, fact, dynamic, power and ethical horizons of their political thinking in order to frame and understand governance in the SD perspective.

However, there is another third central factor that severely limits the capacity of policymakers to adapt governance in a way that enables to bring the society on the tracks of SD and that has been widely left out of sight. In these turbulent times, policymakers largely fail to perceive the continuous and highly dynamic non-linear change in patterns of global affairs, i.e., for global change in the SD perspective. Thereby, the EU discourse fails to provide a systematic insight about how the struggle of policymakers to adapt governance for more SD is related to their lacking capacity to account for global change in the SD perspective.³⁴⁸

The goal of this chapter is hence to elaborate a typology of central cognitive challenges of policymakers in terms of taking into account the implications of global change in the SD perspective. Thereby, the chapter focuses on exploring the following two questions: How does the SD challenge the existing reference frames of policymakers for observing the world politics? And, what is the applicative potential of the newly emerged theories

³⁴⁷ See chapter 2, Table 1 and 2.

³⁴⁸ See chapter 1.3.

of IR such as the global governance theory to serve as a reference frame for framing global change through sustainability lens?

The chapter proceeds in three analytical steps. So as to avoid the conceptual polysemy, *part 1* first outlines how is the term ‘global change’ framed in this thesis and how this framing determines the inquiry of the relevance of global change for adapting governance for more SD? *Part 2* then sets out the main epistemological challenges of tackling global change and the shortcomings of the existing perspectives of policymakers for observing global change through the sustainability lens. Thereby, it aims to outline how the lacking capacity of policymakers to frame global change in the SD perspective impacts their ability to adapt governance for more SD. Drawing on these insights, *part 3* offers an insight into how the global governance theory can be used by policymakers as a reference frame to grasp and study the long-term, global, multi-issue, dialectic, multi-party and micro-ethical perspectives of global change when adapting governance for more SD.

3.1. Relevance of Observing Global Change

Global change represents an increasingly important issue within the current EU scientific and political debate. Still, no uncontested definition and no common understanding of what the term refers to may be given. While term ‘global change’ is often applied in contemporary literature in a naïve, unreflected and self-explanatory way, there are numerous, highly diverse meanings and uses of the term global change.

3.1.1. Global Change as Structural Change in the Global Governance Patterns

This thesis inquires global change exclusively as the structural change in patterns of global governance arrangements. This understanding is confined to large-scale and complex non-linear transformations of patterns of political organisation in time, which profoundly alter our understanding of who is doing what for whom in world’s politics.

The explicit account for global change, i.e., for transformation in global political organisation is essential for adjusting governance for more SD at least for two reasons. First, the reshaping of governance for more SD is always implicitly or explicitly informed by distinct understanding of sources, nature and implications of change in global governance patterns. Secondly, governance for SD needs to remain flexible and adaptable to quickly changing general conditions of global affairs. The governance structures, tools and processes for more SD should not be static and homogenous but highly sensitive and responsive to continuous simultaneous structural changes and new emergencies in cooperative patterns of global affairs.

The understanding of global change as change in patterns of global cooperation and collaboration adopted in this thesis differs severely from alternative common uses and meanings of the term global change within the EU political and scientific debates on SD. Among others, this notion of global change in this thesis contrasts the understanding of global change as a human-induced environmental change that is either global in nature or pervasive across the world. This framing of global change enables policymakers to focus on interplay of components of the ecosystem. However, it closes their view for other dimensions of global change (including for its social, economic and political dimensions). In the current literature, global change is also often understood as economic globalisation. In this case, global change is viewed primarily from the perspective of states and markets. According to Hewson and Sinclair,³⁴⁹ the existing notions of global change as economic globalisation thereby severely differ in the way they conceive the relevance of the world market for global governance. The extreme myth of global change for example argues that the world market is levelling states to produce a ‘borderless world’. The sophisticated view assumes that the internationalisation of markets has direct implications for coalitions of domestic interests rather than for states. Nevertheless, the historical view observes that global markets have no influence on national policy, as they are not new and they don’t form a single integrated world economic space.

³⁴⁹ Hewson / Sinclair, 1999.

3.1.2. Growing Complexity and Dynamics of Global Change

The literature commonly points out two interrelated factors that severely challenge capacity of policymakers to observe global change. First, the complexity of global change is increasing. In particular, policymakers struggle to account for the increasingly multilevel nature of the patterns of global interactions, interdependencies and interlinkages between increasing number of individuals, groups, social layers and classes, institutions. Moreover, they have difficulties to grasp the multidimensional dependencies of norms, values and behaviours, and to take account of the wide range of issues considered on international agenda and for the multilevel nature of global economy and of the modern administrative state. Secondly, the dynamic of global change is increasing. In other words, the relationships and dependencies between as well as within the elements of global governance are subject to increasing comprehensive and continuous change. While the literature identifies a broad range of reasons for the increased complexity and dynamics of global change such as for example the global diffusion of technology or the end of Cold War, the scholars commonly agree about the time of emergence of the global international system. The beginning of the explosive creation of the unprecedented extensive and intensive levels and types of global interactions, problems and dependencies is commonly positioned in the late twentieth century.³⁵⁰

Due to increased complexity and dynamic of global change, policymakers are confronted with an infinite number of possible social scenarios of global change, i.e., of unrealised but realistic possibilities of how global cooperative interactions will evolve in the future. Consequently, they face deep uncertainty when adapting governance for more SD. The increasing complexity and dynamics of the global cooperative patterns continuously challenges the limits of their understanding and reduces the explanative potential of their reference frames for understanding the situation at hand and the future outcomes of different courses of action. In particular, it continuously challenges the existing ways of thought about the IR.

³⁵⁰ Rosenau, 1999. Dougherty / Pfaltzgraff, 2001. Hewson / Sinclair, 1999.

3.2. Epistemological Foundations of Framing Global Change

Policymakers exhibit highly restricted capacity to adequately account for the sources, nature and implications of changing patterns of global affairs due to the growing complexity and dynamics of global change, and the limited scope of the reference frames used to observe it. As policymakers cannot grasp global change in its entirety, they select some features of the ongoing scene as important and dismiss the rest as trivial. Their simplifications of the nature, sources and implications of global change have one in common. They represent outcomes of process of abstraction, in which policymakers face two challenges of perception: the challenge of selecting a relevant part of social reality to observe, and the challenge of choosing the perspective of observation. Depending on the part and perspective of social reality they choose to focus on when observing global change, the patterns of global interactions may be perceived and explained in highly differing ways. The abstraction process, i.e., the choice of relevant part and perspective of social reality to observe thereby largely depends from the subjective experience of policymakers, who themselves represent a part of the ‘objective reality’ that they explore.³⁵¹ This means that perspective-dependence, selectivity and social conditionality is inherent to any type of knowledge and political thinking on global change. There is thus no ‘best jar’ to perceive global change.

Policymakers summarise their understanding of global change by reference to few organising principles, which represent their orientation points for understanding it. Consequently, their perception of change in patterns of global governance depends on diverse assumptions that they rely on in order to organise their thinking of world politics. In order to deconstruct the struggle of policymakers to frame governance in the SD perspective, it is hence necessary to examine, how do policymakers choose perspectives and aspects to observe and explore in order to tackle the sources, nature and implications of global change?

³⁵¹ Von Foerster, 1993.

3.2.1. Meta-Physic Foundations of Political Thinking on Global Change

Political thinking of policymakers on global change is - implicitly or explicitly - informed by distinct assumptions about epistemology, ontology, methodology, teleology, axiology and ideology. These six types of assumptions originating from the realm of philosophy constitute a basis for drawing a map, i.e., for social construction of global governance. As such, they represent the reference points for understanding complex global change within specific context and time. They comprise philosophical foundations on which policymakers base their knowledge on global change in the past, the present and the future.

Epistemological assumptions are assumptions about the nature of knowing, i.e., about the capacity of policymakers to uncover the truth.³⁵² Epistemology³⁵³ for the world politics thus represents a theory of knowledge for the truth claims about change in global governance patterns. It serves policymakers to determine the limits of their knowing about global governance, including their capacity to grasp the complexity, dynamics and uncertainty of global change.

Ontological assumptions are assumptions about the essence, sense and primary reason of reality and human beings.³⁵⁴ Applied to the field of global governance, they consist of assumptions that people make about the realities of global governance. They serve as an intersubjective basis for understanding the essential underpinnings of the world political organisation. They refer to the essential components of the whole that they comprise. The ontological assumptions, therefore, identify what actors engage in what forms of behaviour to sustain a particular system.³⁵⁵ These assumptions for example serve policymakers to organise their thinking about the world affairs as they tell them, what is significant in a particular world that they delve into and what are the basic entities and key relationships in global governance.

³⁵² Aaltonen / Barth, 2005.

³⁵³ Epistemology is a Greek term referring to absolutely certain knowledge as 'episteme', while calling mere opinion 'doxa'.

³⁵⁴ Aaltonen / Barth, 2005.

³⁵⁵ In contrast, paradigm as conceived by Kuhn, defines the relationships between these components (see chapter 3.2.2.).

The methodological assumptions refer to appropriate choice and uses of research methods as techniques for perceiving and understanding the social reality.³⁵⁶ They serve policymakers to identify what are the appropriate methods and how to use them for collection, analysis, interpretation and dissemination of data about the social reality. These assumptions for example tell them how to observe global change. Further assumptions that commonly inform the political thinking of policymakers on global change include assumptions about the purposes of theory (teleology), about the value of ethics (axiology), and about nature of power (ideology) in observing global governance.³⁵⁷

Viewed from the all encompassing perspective in which policymakers perceive and talk about the social reality of global affairs, the above six types of assumptions are highly interdependent and cannot be delineated clearly from each other. These interdependencies can be illustrated with an example from the policy analysis praxis. Policy analysts ontologically assuming that there is no objective reality tend to rely on explorative methodology, i.e., they choose and use methods in a way that enables them to bring implicit assumptions about the social reality to surface for conscious examination or to involve multiple perspectives in order to generate knowledge about the research object. In contrast, policy analysts assuming that they may uncover objective reality will rather take explicative or descriptive research paths that allow them to measure and describe the social phenomena in objective way or to find final solutions to pre-existent problems.

The above meta-physic assumptions represent a common notion of an epoch and as such play an orientation function for emergence of different empirical specifications commonly referred to as paradigms. Policymakers need to continuously reflect, question and – if necessary – update or transform these assumptions, in order to maintain their orientation function for political thinking that is responsive to changing social realities, as well as to profoundly transformed conditions of peoples' existence, and to changed awareness of people. Their transformation thereby represents a difficult and long-running process as they are extremely deep-rooted due to their orientative function.

³⁵⁶ See chapter 5.1.

³⁵⁷ Aaltonen / Barth, 2005.

The highly complex nature of the meta-physic assumptions informing the political thinking of policymakers raises several questions concerning the modalities of critical reflection of political thinking about global change: How can all six types of meta-physic assumptions that serve policymakers' as an orientation in observing global change, be delineated in their specific interdependency? How can they be brought to surface for conscious examination? How to account for the continuous transformation of these assumptions informing policymakers' observation of global change? In continuation, the chapter aims at these questions in greater detail.

3.2.2. Paradigmatic Nature of Political Thinking on Global Change

The science theory discourse commonly uses the concept of 'paradigm' to refer to the empirical specifications of what follows from assumptions about epistemology, ontology, methodology, teleology, axiology and ideology.³⁵⁸ Paradigm refers to the way in which the elements of social reality are interactively organized and the order is imposed upon them. It allows for the movement on the part of the components and enables to focus on changes and stabilities that comprise the whole. The paradigm is, therefore, commonly seen as the main point of reference for understanding social reality.³⁵⁹

The concept of paradigm thinking was first introduced by Kuhn in the beginning of the late 1960ties. The paradigm concept that was first published in his book 'The Structure of Scientific Revolutions'³⁶⁰ quickly evolved to a well-known and often used concept in the social sciences. The word paradigm "comes from the Greek word 'paradeigma', which means a mode or pattern of thought. To Plato, paradeigma meant the real world of ideas, of which the visible world is only reflection."³⁶¹ Kuhn developed his concept of paradigm in an attempt to understand the structure of scientific revolutions. He defined a paradigm as the existing wisdom of discipline or research areas, which tells experts from the discipline what is the predominant way of thinking accepted by the

³⁵⁸ Kuhn, 1962.

³⁵⁹ Mannermaa, 2004.

³⁶⁰ Kuhn, 1962,

³⁶¹ Mannermaa, 2004, pp. 42.

scientific community in the field at a specific time.³⁶² In Kuhn's³⁶³ perspective, paradigm thus refers to scientific problem solving, which became a guiding thought-model in a certain discipline and which creates a new research tradition.

Kuhn understands paradigm as the specification of the common sense of an epoch that form the basis of analytic habits. It represents the existing wisdom of a discipline or of a domain outside science that determines how to make science, what are the accepted methods, what kind of research data is to be used, what is the nature of results, what are the dominating results now, into what direction should new research be directed or what are the leading journals and who are the opinion leaders and gate keepers.³⁶⁴ Paradigm thus defines the field of action, its boundaries, its problems, its practitioners, and its direction of work. As such, it also determines the emergence of certain types of middle- and lower-level theories about social reality. According to Kuhn,³⁶⁵ it has the potential to achieve the stage of complete dominance in a field of science or expertise; that's when the stage of 'normal science' is achieved.

Inherent to any paradigm is that it is extremely deep-seated and rooted.³⁶⁶ In consequence, paradigms do not readily yield to evidence of obsolescence. This is because one of their primary functions is to retain the whole, i.e., the existing system. The paradigm thinking, therefore, can cause the lacking sensitiveness and responsiveness to social reality as it prevents from seeing factors outside the adopted paradigm(s). This problem is commonly known under the term 'paradigm blindness'. That is when the stage of beginning of doubt occurs.³⁶⁷ At this stage, the inconsistencies and uncertainties are no longer easily resolved within the dominant paradigm and become recognised as persistent anomalies. Therefore, the members of a paradigmatic community begin to ask questions that have no clear and apparent answer within the dominant paradigm. According to Kuhn, this phase is followed by scientific revolution, when a new and competing paradigm is proposed as an acceptable alternative to the old

³⁶² Kuhn, 1962.

³⁶³ Mannermaa, 2004. pp. 42.

³⁶⁴ Mannermaa, 2004, pp.43.

³⁶⁵ Kuhn, 1962.

³⁶⁶ Rosenau, 1999.

³⁶⁷ Mannermaa, 2004, pp.43.

paradigm. After a period of struggle between the adherents of the old and the new paradigm over disciplines resulting in the domination of new paradigm over the field, the stage of normal science reoccurs.³⁶⁸

Kuhn's concept of paradigm thinking is in many ways restricted and outdated in that it, among others, disregards the possibility of multi-paradigm thinking, characterised by a cohabitation of several equally important paradigms or prevalent 'Weltanschauungen' in one field of expertise and discipline. Moreover, it was originally developed to as reference frame to observe and understand scientific revolutions and not the perception of policymakers. However, despite these shortcomings, the concept of paradigm thinking represent a promising frame for the exploration of the meta-physical assumptions behind the political thinking of policymakers on global change. Arguing that paradigm thinking represents one of the most common means of policymakers to reduce the complexity of global change, the thesis in continuation focuses on exploring, what types of paradigms policymakers can rely on in order to perceive global change in the SD perspective.

3.2.3. Old versus New Paradigm Thinking on Global Change

The SD concept represents a derivate of a certain type of paradigm thinking, i.e., it can be ascribed to a certain model of thought. In order to gain policy-relevant knowledge about global change for reforming governance for more SD, policymakers need to rely on concepts and theories that derive from the same type of paradigm that inform the SD concept. In other words, their perception of global change needs to be guided by the principles of thought that are coherent with those grounding the concept of SD. But what are these principles of thought informing the SD concept?

Groff distinguishes two types of paradigms that commonly inform the contemporary political thought; the 'old paradigm' and the 'new paradigm'.³⁶⁹ She delineates the main

³⁶⁸ Kuhn, 1962.

³⁶⁹ Old paradigm thinking is typically referred to as the positivist- or rationally-oriented paradigm thinking. New paradigm thinking is commonly discussed as the interpretative or post-positivist paradigm thinking. All these alternative terms refer to the distinct science theory tradition (positivist, rationalist, interpretative, post-positivist) behind the paradigm thinking. However, this thesis will use the terms 'old

differences between both types of paradigm thinking in the following way:³⁷⁰

Table 3: Comparative Typology of the Old and the New Paradigm Thinking³⁷¹

Old Paradigm	New Paradigm
'Either/Or' thinking (beginning with Aristotle).	'Both/And' thinking.
Based on old physics (Newton).	Based on new physics (Einstein).
Reality made up of separate parts.	Reality made up of interdependent parts.
Whole understood as the sum of separate parts.	Parts are not separate, but understood only in their relationship to the whole.
Reductionist worldview.	Holistic worldview.
Materialistic worldview.	Recognition of the invisible/unseen/spiritual behind the material.
Mechanistic worldview, world as a linear machine.	Organic worldview, world as a non-linear machine
Focus on structure.	Focus on process.
Belief that science can arrive at total truth about social reality.	Belief that science can give only interpretations of the social reality.
Absolute relationships and predictions possible: know if you change variable X by a certain amount, it will lead to a set, predictable amount of change in variable Y.	Statistical probabilities only; cannot predict with certainty whether a photon will be a particle or a wave.
Absolute time and space as two totally separate entities.	Time and space as interrelated and relative to each other (curved time-space).

Groff's differentiation between the old and new paradigm thinking by no means represents an exhaustive model for understanding political thinking of policymakers about global change. Groff sums up the main implicit ontological, epistemological, teleological, axiological and ideological assumptions behind two types of paradigm thinking that commonly determine the observation processes of policymakers. She points out that old paradigm thinking urges policymakers to rely on concepts and theories that are characterised by 'either/or' thinking, that are based on old physics, that perceive reality as made of separate parts, that see the whole made out of the sum of separate parts, that are characterised by reductionist, materialistic and mechanistic

and new paradigm thinking' because the alternative terms tend to be used and understood in highly heterogeneous way.

³⁷⁰ Groff, 2003. See Table 3.

³⁷¹ Adapted from Groff, 2003.

worldview, that focus on structure as opposed to process, that strive to uncover the absolute truth, that assume the possibility of absolute relationships and predictions, and that conceptualise time and space as two separate and absolute entities. In contrast, new paradigm thinking supports the use of theoretical approaches which exhibit ‘both/and thinking’, which are based on new physics, which assume that the reality is made up of interdependent parts, which study and understand part of the whole only in relationship to the whole and not separately, which have a holistic and organic worldview, which recognise the existence of invisible unseen spiritual behind the material, which focus on the process instead of on the structures, which share a belief that science can give only approximations of truth (statistical probabilities), and which conceptualise time and space as interrelated and relative to each other (curved time-space).

The above list of features of the two central types of the contemporary paradigm thinking about social reality enables to conclude that the SD concept represents a derivate of new paradigm thinking tradition. By advocating the intragenerational and intergenerational justice for all humankind, the concept, among others, exhibits a holistic view on the world and acknowledges its interdependent nature. By advocating the necessity of personal responsibility ethics it recognises the importance of invisible norms and values for policymaking and the necessity of tracing knowledge to sources that lie beyond empirical observation.

In order to gain relevant insights about the impact of global change on adjusting governance for more SD, the framing of global change thus needs to be informed by new paradigm thinking. This means that to assure the consistency and relevance of knowledge on global change for implementation of SD, the political thinking of policymakers about global change needs to be informed by theories and concepts that are ascribed to new paradigm thinking, for they direct the focus of policymakers at the perspectives and aspects of global change that occur relevant through sustainability lens. In contrast, the reliance of policymakers on theories deriving from old paradigm thinking³⁷² clearly diminishes their capacity to gain insights that are relevant to implementation of the SD concept into policymaking, because the derivatives of old

³⁷² See Table 3.

paradigm thinking direct the focus of policymakers towards the aspects and the perspectives of social reality, which seem irrelevant in the SD perspective.

To conclude, theories deriving from new paradigm thinking have a greater epistemological value thinking for exploring global change in the SD perspective than theories that represent derivatives of old paradigm. The capacity of policymakers to observe global change through sustainability lens, in consequence, largely depends from their ability to find and rely on theories deriving from new paradigm thinking. In the following, the thesis thus discusses what theories policymakers tend to rely on so as to tackle global change, and what type of paradigm thinking they derive from.

3.2.4. Theories of International Relations as Reference Frames

Theories of IR represent the main orientation points for policymakers aiming to grasp global change in order to adapt governance for more SD. Policymakers implicitly or explicitly rely on various theories of IR so as to make sense of the nature, sources and implications of changing patterns of global governance, for they focus on the nature and dynamics of the world politics and offer promising reference frame for studying global governance.³⁷³ However, the applicative potential of theories of IR to help policymakers frame global change through sustainability lens differs highly in dependence from the type of paradigm thinking that they derive from.

Policymakers striving to tackle how the patterns of global governance change in time largely tend to rely on theories of IR that are ascribed to old paradigm thinking.³⁷⁴ They include (1) the liberalism, also known as idealism, and its modern day version, the neoliberal institutionalism and the neoliberalism, as well as its various middle-level versions such as the functionalism, the international regimes theory and the collective and public goods theory, (2) the realism and its middle-level derivatives, including the neorealism, the structural realism, the strategic and the rational choice theory and the

³⁷³ There are several further relevant perspectives and conceptual frameworks on global change (the economic theories perspectives etc.), which continuously represent important complementary perspectives on global change and even sources for theories of IR. However, it is beyond the scope of this thesis to pursue the discussion of further theories informing the perception of global change.

³⁷⁴ See Table 3.

hegemonic stability theory, and (3) the pluralist and the globalist models. These theories are characterised by the positivist epistemology, i.e., by philosophy of knowledge based on the positivist outlook of social scientists who sought to emulate methods of natural sciences such as for example quantitative measurements and testing of hypotheses. In consequence, theories interpret the global governance patterns as an order or as a static structure.³⁷⁵ In this view, the patterns of global governance are unchanging and static. These theories restrict the view of policymakers to the point that they are capable of recognising only two sharply opposed forces that may shape our future world order: a balkanised world of sovereign tribes each guarding its sacred patrimony or a global shopping mall managed by a consortium of profiteering corporate giant under the protective shield of capitalist superpowers.³⁷⁶ Although the capacity of these theories of IR to illuminate and explain global change in turbulent times is highly disputed, they continue to dominate the post-Cold-War-view on international and global affairs. Representing the cornerstone of much theoretical debate within the discipline they are thus often referred to as the mainstream theories of IR.

While theories of IR deriving from new paradigm thinking³⁷⁷ still seldom inform the policymakers' observation of global change, they gain on relevance and popularity among policymakers aiming to tackle the changing patterns of global cooperation in order to build governance arrangements for SD. They include several macro theories and their corresponding middle-level derivatives such as (1) the constructivist theory of IR, (2) the critical theory including the feminist theories, the postmodernism, the poststructuralist theories and the Marxist and the neo-Marxist theories with their derivatives – the dependency and the world systems theory, and (3) the global governance theory. These theories occurred since the end of Cold War due to disillusionment and dissatisfaction with the quantitative-empiricist-positivist-cumulative epistemology that is characteristic of theories of IR deriving from old paradigm thinking.³⁷⁸ According to Dougherty and Pfaltzgraff,³⁷⁹ they constitute the aggregate of the 'third paradigm'.

³⁷⁵ Hewson / Sinclair, 1999.

³⁷⁶ Dougherty / Pfaltzgraff, 2001.

³⁷⁷ See Table 3.

³⁷⁸ Dougherty / Pfaltzgraff, 2001.

³⁷⁹ Dougherty / Pfaltzgraff, 2001, pp.38.

If the map of global governance would be drawn in the perspective of the mainstream theories of IR deriving from old paradigm thinking, global change would be depicted differently than from the perspective of theories of IR to be ascribed to old paradigm thinking. On one hand, the mainstream theories of IR – the liberalist, the realist, the pluralist and the globalist theory - that are largely ascribed to old paradigm thinking have very low or no epistemological value for grasping global change through sustainability lens. On the other hand, theories of IR deriving from new paradigm thinking - constructivism, critical theory or global governance theory - have a high potential to serve as reference frame for grasping global change in a way that is relevant for aligning governance to SD. They represent promising theoretical perspectives for observing those features of global change that seem relevant in the SD perspective and that lie out of reach of theories of IR deriving from old paradigm thinking.

However, this is not to say that policymakers should not rely on IR theories deriving from old paradigm thinking when exploring its impact, sources and nature. Their applicative potential is by no means obsolete as they enable to explain and explore certain issues and aspects of global change within their epistemological restraints. Despite the limitations in their capacity to acknowledge the complex, non-linear and dynamic nature of global change, theories of IR deriving from old paradigm thinking can prove highly beneficial when it comes to studying change within existing structures and systems of governance. Hewson and Sinclair for example argue that realism “remains relevant in the sense that politics is a power struggle,”³⁸⁰ and that the “kinds of power and the organising principles that form patterns of global governance need to be brought into any comprehensive account of global change.”³⁸¹ However, their capacity to capture the meta-change, i.e., to question the existing global governance system and the broader rule and paradigms within which they operate, is highly limited.

3.3. Global Change in Global Governance Theory Perspective

To date, the applicative potential of global governance theory as an alternative theoretical tool for framing global change through sustainability lens received only

³⁸⁰ Hewson / Sinclair, 1999, pp. 4.

³⁸¹ Hewson / Sinclair, 1999, pp. 4.

minor attention within the contemporary political and scientific discourse. However, scholars commonly argue that global governance theory represents a promising theory,³⁸² scientific concept,³⁸³ and not yet but soon to be paradigm of IR³⁸⁴ for observing global change in the SD perspective, as it is informed by new paradigm thinking. Global governance theory emerged in the late 1990ties in the context of the prevailing multilayer IR debate on the sources, extents and implications of global change. Accordingly, it primarily aims to address and outline the dynamic and complex nature of the changing patterns of global governance. It is grounded in the older political science debates, including the globalisation debate, the transnational relations debate addressing issues such as the end of the state, the transformation of sovereignty, the emergence of global civil society, government without government, the intergovernmental relations, the transnationalism and the polyarchy, and the debate on multilateralism and organisational reforms of international organisations.³⁸⁵

To date, the applicative potential of global governance theory as an alternative theoretical tool for framing global change through sustainability lens received only minor attention within the contemporary political and scientific discourse. There is already extensive literature offering comprehensive insight about the analytical and explanatory potentials of the global governance theory for identifying the patterns of global governance and studying how they change in time. However, these reflections offer little or no explicit insight on the potential of this theoretical approach to account for perspectives relevant for the translation of the concept of SD into policymaking.

In order to close this knowledge gap, the thesis in continuation draws on global governance theory to develop a typology of central cognitive challenges of policymakers in terms of taking into account the implications of global change in the SD perspective that policy analysts need to address in order to inform governance for SD.³⁸⁶ The typology follows twofold purposes. First, it wants to identify the main assumptions and categories of global governance theory that are concerned with the

³⁸² Hewson / Sinclair, 1999.

³⁸³ Pattberg, 2006.

³⁸⁴ Rosenau, 1999.

³⁸⁵ Hewson / Sinclair, 1999; Pattberg, 2006; Woodward, 2006.

³⁸⁶ See Table 4.

temporal, spatial, fact, dynamic, power and ethical perspectives of global change. Secondly, it critically reflects, how can these assumptions and categories sensitise political thinking of policymakers for those dimensions of global change that are considered relevant in SD perspective. In particular, it highlights how the global governance theory perspective increases the capacity of policymakers to take a long-term, global, multi-issue, nontrivial dynamic, multi-party and the micro-ethical view on global change.

Table 4: Cognitive Challenges of Perceiving Global Change in Sustainability Perspective

Meaning Dimensions in Political Thinking on Global Change	Horizons of Thinking Global Change in the SD Perspective	Features of Global Change in the SD Perspective
Temporal Dimension	Long-Term Futures Horizon	<ul style="list-style-type: none"> - acceleration of pace of global change at all levels of policymaking due to confounded spatial and temporal dimensions of policymaking - sovereignty of states as a fluid and dynamic concept
Spatial Dimension	Global Horizon	<ul style="list-style-type: none"> - allocations of values in spheres of authority which may or may not be coterminous with a bounded territory - frangible dynamic of global change, i.e., simultaneous shifts of authority to transnational and to sub-national level
Fact Dimension	Multi-issue Macro Horizon	<ul style="list-style-type: none"> - reciprocal interdependence between market and state - international regimes as 'patchwork patterns' that are centred around multiple issues - multi-dimensional nature of globalisation, concerning informational, civil and social dimensions besides the economic dimension
Dynamic Dimension	Limits to Growth	<ul style="list-style-type: none"> - global change and, in particular, the economic globalisation are dialectic processes with contradictory effects on human well being - global order is 'all-encompassing' and represents an 'organic whole'
Power Dimension	Multiparty Horizon	<ul style="list-style-type: none"> - patterns of global affairs as interactions between differing and interdependent systems of thought - the sovereignty concept is continuously contested and varies across time, place and issues - the shifts of authority to subnational, transnational and non-governmental level are normal³⁸⁷ features of global change - delocalisation of authority of territorial states in multiple directions causes a variety of newly emerging types of governance - the chains of causation in governance processes and structures follow crazy-quilt fussy patterns of interaction - states and governments are relevant to and consequential for the course of events along with a host of other actors - the increasing role of emerging global civil society - the rising power of transnational globalising hyper-capitalist elites - the rising power of the emerging global informational elites - the world is comprised of spheres of authority
Ethical Dimension	Micro-ethical Horizon	<ul style="list-style-type: none"> - the intensive nature of globalisation - the rising skills and capacities of individuals - the altering horizons of identification in patterns of 'global life'³⁸⁸

³⁸⁷ In accordance with the Kuhn's concept of 'normal science' this thesis uses the term 'normal features' as generally accepted and dominantly perceived features of global change.

³⁸⁸ Rosenau, 1995.

3.3.1. Accelerating Pace of Global Change at all Levels of Policymaking

Global governance theory offers several insights about the temporal underpinnings of global change that can serve as valuable orientation points to policymakers aiming to observe it in the SD perspective.³⁸⁹ It represents a historical, change-oriented approach to study of global affairs³⁹⁰ that explicitly focuses on the process of change in development of global affairs patterns. Global governance theory attempts to treat the temporal dimensions as no less significant as the spatial dimensions of changing patterns of global governance. Therefore, it significantly differs from the mainstream theories of IR, which tend to study global governance as a static entity and as an order that is deprived from the temporal dimensions.

Global governance theory, among others, has the potential to open the view of policymakers for the long-term futures horizons of global change by pointing out that whilst the logic of governance in the past was following the hierarchical lines, today the logics of global change follows the ‘framegrative dynamics’,³⁹¹ i.e., it is subject to simultaneous fragmentation and integration processes. The term was coined by Rosenau³⁹² to describe the contrasting simultaneous and interactive forces toward policy integration and fragmentation. He argues that the processes of aggregation and disaggregation are occurring and interacting so rapidly to the point of being simultaneous. Consequently, they rid event sequences of any linearity that they ones had. The events occur roughly at the same time at different levels of policymaking, leaving actors, as always, in the mode of seeking to catch up with the consequences of their decisions. In this way, Rosenau points towards the necessity to observe its temporal dimension against the background of boundary change and erosion. He highlights the need to observe the confounded spatial and temporal dimensions of policymaking development so as to account for global change. He also stresses the importance to explore and explain the increasing pace of dynamic of global change at

³⁸⁹ See chapter 2.3.1.

³⁹⁰ See Table 4.

³⁹¹ Rosenau, 1999; 1995.

³⁹² Rosenau, 1999.

all levels of policymaking when studying its nature, sources and implications for governance SD.

Moreover, global governance theory views the sovereignty of states as a fluid and dynamic feature of changing patterns of global interactions. Accordingly, it has the potential to enhance the view of policymakers for the non-existent future and enables them to consider the long-term, still non-existent, yet possible future constellations and aspects of global governance. It allows policymakers to emancipate themselves from the past and the present. For example, global governance theory opens the view of policymakers for the possibility that governance may culminate in a modicum of worldwide coherence that consists of widely disaggregated goal-seeking entities, which supplement or even supplant states as prime sources of governance on a global scale. This possibility is excluded by the mainstream theories of IR that treat sovereignty of states as a static feature.

3.3.2. Fragmegrative and Nonterritorial Nature of Global Change

Global governance theory offers policymakers several reference points for observing the spatial dimension of global change in the SD perspective³⁹³ as it provides in-depth insights about the change in the spatial and territorial underpinnings of patterns of global cooperation and collaboration.³⁹⁴ Among others, it introduces the idea of ‘spheres of authority’, which are “distinguished by the presence of actors who can evoke compliance when exercising authority as they engage in the activities that delineate the sphere.”³⁹⁵ The theory thus enables policymakers to observe the authority as a relational variable. Its existence is given, when it is both exercised and complied with.³⁹⁶ Stripped from its territoriality and its totality, the authority may or may not be bounded to a territory. This notion of authority is sharply opposed to the notion of authority that is common to mainstream theories of IR, which see it in possession of actors or embedded in roles.

³⁹³ See chapter 2.3.2.

³⁹⁴ See Table 4.

³⁹⁵ Rosenau, 1999, pp.295

³⁹⁶ Rosenau, 1999.

Global governance theory allows to observe global governance patterns as consisting of types of different types of spheres of authority: of the territorial spheres of authority, in which allocation of values remains linked to geographic space and of the nonterritorial spheres of authority, in which those who comply can be spread around the world and hence do not need to be located in the same geographic space. In this way, the theory points towards the necessity to account for the allocation of values happening in the spheres of authority which may or may not be coterminous with a bounded territory when observing the spatial dimension of global change.³⁹⁷

By acknowledging the nonterritorial and the non-linear nature of global order, global governance theory enables policymakers to depart from conventional IR thinking and account for the relocated authorities to transnational level and emergence of nonterritorial, non-linear politics. By arguing that those who comply may be located in the same geographic space and have the same organisational affiliations or they may be spread around the globe having no territorial relationship, it opens the view of policymakers for the truly global transnational scope of the patterns of governance. For policymakers who take the global governance theory point of view, the Westphalian and territorial state system is no more that one and only form of contemporary global governance.

Global governance theory moreover points toward the fragmentative dynamics of global change as the pervasive principle iterative between the societies.³⁹⁸ In this perspective, the shifts of authorities from the national level have a dialectic and contradictory nature. The shifts of authorities toward the transnational level occur simultaneously with the shifts of authority to the subnational (local, communal) level. Consequently, global change is conceived as being composed not of one overarching trend from national toward transnational level ('either/or' thinking) but of several dialectical and contradictory tendencies ('both/end' thinking). In this way, global governance theory highlights the necessity to account for both, the globalising and the localising tendencies of global change when adapting governance for more SD. It makes clear that the

³⁹⁷ Rosenau, 1999, pp. 296.

³⁹⁸ See chapter 3.3.1.

understanding of the global dimension of global change demands the consideration of interdependencies between the simultaneous shifts of authority from the national to the global and the subnational level.

3.3.3. Multi-Dimensional Nature of Global Change

Global governance theory represents a promising reference frame for tackling the fact-dimensions of global change in the SD perspective, i.e., to tackle its macro-issue nature.³⁹⁹ Its goal is to end with the primacy of economic perspective on globalisation that is commonly advocated by the neo-liberalist economic theory⁴⁰⁰ and to open the view of policymakers for the reciprocal interdependence between the market and the state. It stands for a critical attitude toward the market-state relationship, arguing that the mainstream notion of relationship between the state and the market as a linear on-way dependence is highly restricted.

The theory, among others, has the potential to enhance the view of policymakers on global change that is often restricted to observing the economic dimension of global change. By pointing towards the civil dimension (e.g., the emergence of global civil society), the informational dimension (e.g., the occurrence of epistemic authority, growing importance of epistemic authority) and the social dimension (e.g., the emergence of intellectual and political elites) of global change, the theory offers reference points to study the multidimensional nature of global change.⁴⁰¹ In particular, it enables policymakers to spot the interdependencies of the social and the environmental dimension with the economical dimension of global change, which are considered as highly relevant in the SD perspective.

In the global governance theory perspective, international regimes are framed as ‘patchwork patterns’,⁴⁰² i.e., as systems and clusters of international governance. By changing the focus from an ‘issue-area’, which is typical for the mainstream theories of

³⁹⁹ See Table 4 and chapter 2.3.3.

⁴⁰⁰ Henderson, 2004.

⁴⁰¹ Hewson / Sinclair, 1999.

⁴⁰² Hewson / Sinclair, 1999.

IR, to a 'system', the theory opens the view of policymakers for the multi-issue nature of regimes and relaxes the brackets around the issue-centred notion of global governance arrangements in order to situate them within the context of multiple overlapping patterns of global interactions. The theory thus provides an innovative way of overcoming the major cognitive barriers of policymakers to accounting for the macro-nature of global politics due to their reliance on the mainstream theories of IR such as the realist and liberalist theory.

3.3.4. Dialectic Nature of Global Change

Global governance theory represents a promising reference frame for observing the dynamic nature of global change in the SD perspective.⁴⁰³ It points towards several cognitive challenges to adopting a differentiated and critical – as opposed to deterministic - understanding of global change as a non-linear complex process.⁴⁰⁴ From global governance perspective, global change is seen as being composed not of one overarching trend but of several dialectical and contradictory tendencies.

Among others, the theory points towards the dialectic nature of the economic globalisation that has contradictory effects on the human well being. Such notion of global change allows policymakers to explore both, the positive as well as the negative impacts of global change on the social and the environmental systems in time and space. Global governance theory hence allows policymakers to open their view for social, conceptual and material limits of economic growth in time and space.⁴⁰⁵ It enables them to emancipate themselves from the commonly adopted models of growth deriving from old paradigm thinking such as for example the liberalist models of growth that largely disregard the negative impacts of global change and in particular its negative impacts on the social or the environmental aspects of societal transition.

In the global governance theory perspective, global order is conceived from the point of view of universal dependence on the biosphere, i.e., as an 'all-encompassing' and

⁴⁰³ See chapter 2.3.4.

⁴⁰⁴ See Table 4.

⁴⁰⁵ Henderson, 1985.

‘organic whole’.⁴⁰⁶ Such holistic notion of IR promotes the capacity of policymakers to account for the limitations to societal growth such as the scarcity of the natural resources and of the social capital. It acknowledges the interdependencies between the environmental, social and political dimensions of societal growth and opens their view for boundaries and limits that these interdependencies pose to growth.

To sum up, the differentiated notion of dynamic of global change offered by global governance theory opens the view of policymakers for the limits to economic and societal growth and enables to adapt governance for more SD in a way that is sensitive to the need for promoting a self-sustaining growth. The theory also offers important insights and categories to explore how the self-sustaining growth may be achieved politically at the global level.

3.3.5. Ongoing Extension of Democratic Space

Global governance theory offers a promising frame for observing the power dimension of global change in the SD perspective, i.e., to account for the multi-actor policy context in the changing global affairs patterns.⁴⁰⁷ The theory focuses on issues related to ongoing extension of democratic space in patterns of global cooperative interactions and thus offers policymakers valuable categories, perspectives and terms to tackle it. By arguing that the world is comprised of spheres of authority,⁴⁰⁸ global governance theory, among others, enables policymakers to move beyond the restricted actor-oriented and/or state-centred observation of global affairs and global change. The relational notion of authority as basic analytical units opens the view of policymakers for the multi-actor perspective on global change, which is widely disregarded by the traditional theories of IR. For example, it allows policymakers to account for the power dimension of the highly dynamic and fluid global governance arrangements that take the form of networks that are not territorially bounded.

⁴⁰⁶ Rosenau, 1999.

⁴⁰⁷ See Table 4 and chapter 2.3.5.

⁴⁰⁸ See chapter 3.3.1.

In the global governance theory perspective, sovereignty of states is perceived as a dynamic and complex phenomenon that is continuously contested and that varies across time, place and issues. The theory argues that states retain their sovereign rights, but the spatial realms within which these rights can be exercised have diminished. This notion of sovereignty enables policymakers to depart from the realist notion of sovereignty as a static entity, and to develop a more differentiated and in-depth evolutionary view on the continuously changing character of sovereignty. It allows them to systematically examine how the sovereignty of territorial states has been changing in time, space and issues.

Moreover, global governance theory points out that the global affairs patterns do not follow hierarchical lines, which are characterised by linearity in time and space. Rather, the chains of causation in governance processes and structures are conceived as following the crazy-quilt, fussy patterns of interactions. By introducing the idea of frammegrative dynamics of global change, the global governance theory enables policymakers to study the relocations of authority and control mechanisms from territorial states upwards to transnational and supranational organisations, sideward to social movements and NGOs, and downwards to subnational groups. In this perspective, states and governments are not necessarily central to the course of events in the global political processes. Policymakers can hence draw a fine line between the following two extreme positions: the dismissal of the role of states and governments in political process as secondary and peripheral and the centrality and primacy of states and governments for global political processes. They can account for the extension of democratic space as an inherent and normal features of global governance that promotes and not endangers the existence of global order. This theoretical perspective significantly differs from the state-centred mainstream theories that largely disregard the shifts in authority away from territorial states or conceive them as anomalies that endanger the existing global political systems.

By arguing that global change in this epoch follows a frammegrative dynamics,⁴⁰⁹ global governance theory not only allows policymakers to consider the increased diffusion of

⁴⁰⁹ See chapter 3.3.1.

authority and for diminution of hierarchy, but also the enormous variety of forms global governance modes. It enables them to observe the diversity of newly emerging complex types of governance arrangements stretching between the “transnational and the subnational, the macro and the micro, the informal and the institutionalized, the state-centric and the multi-centric, the cooperative and the conflictual.”⁴¹⁰ By relativising the primacy of governments and states in global governance arrangements, it opens their view for interactions between new types of actors. Global governance in particular points towards the rising importance of global civil society and of transnational hypercapitalist elites and in the governance arrangements as well as towards the changed nature and societal status of expert knowledge.

Global governance theory first points towards the rising importance of global civil society and global life. Thereby, it frames civil society as an arena of transnational ideological tendencies, worldwide movements and initiatives. By acknowledging the increasing orientation of civil society to a worldwide scale, it opens the view of policymakers for the necessity to account for the democratic and the normative potential of diversified and engaged realm of global civil society when observing the power dimension of global change. As a result, it for example allows them to anticipate and understand the increasing relevance of grassroots movements such as the global anti-globalisation movement, a movement against market-driven fundamentalism that is in favour of an alternative development model. The international social democracy, rural people, ‘green’ movements worldwide, and thousands of NGOs form a powerful force whose pressure is being increasingly felt by the ruling elite.⁴¹¹

Furthermore, global governance theory highlights the increasing relevance of the transnational hyper-capitalist elites in the global governance arena, i.e., of key intellectual, business and political elites in particular in the G7 zone oriented toward a ‘hyper liberalism’ in the global political arena. The theory argues that these elites emerged due to the renaissance of the power of the money capital in the global political economy in the late twentieth century. They are conceived as a symptom of restructuring of political economy and as collective actors who shape the predominant

⁴¹⁰ Hewson / Sinclair, 1999, pp. 7.

⁴¹¹ Gorbachev, 2006.

form of global governance today. Global governance theory also points towards the emergence of social forces that oppose and negate the neoliberalism and the hyper-capitalist elites. The theory, therefore, not only enables policymakers to account for the role of hyper-capitalist elites for reforming governance for more SD, but also for the ‘post globalisation’ forces, which seek to re-embed the world economy in social norms.⁴¹²

Another aspect concerning the power dimension of global change that merits attention from the viewpoint of global governance theory represents the changed nature and societal status of the expert knowledge. The theory highlights the growing importance of globally oriented epistemic and informational elites as a new type of actor in global governance arrangements.⁴¹³ They are conceived as knowledge brokers of the high level symbolic analysis who direct the emerging information order. Their salience is thereby seen as being loosely associated with the technologies of the emerging world wide knowledge order. The global governance theory hence points towards the relocation of authority from states and governments to informational elites that receive an increasing epistemic authority. Epistemic authority is thereby framed as “an ability to produce attention, respect, trust at a distance based on expertise and professional eminence.”⁴¹⁴ The theory thus allows policymakers to account for the rising importance of the informational dimension of global change and observe it as a process of elevating global knowledge, i.e., the sorts of intelligence and communication that contribute to and help to coordinate other aspects of global change. It enables them to observe the rising importance of various types of epistemic communities such as policy networks, think-tanks etc. when adapting governance for more SD.

Nevertheless, by conceiving the patterns of global affairs as interactions between differing and interdependent systems of thought, global governance theory enables policymakers to study global change as change in interactions between different systems and communities. As a result, it allows them to take into account the

⁴¹² Hewson / Sinclair, 1999.

⁴¹³ Hewson / Sinclair, 1999.

⁴¹⁴ Hewson / Sinclair, 1999, pp. 10.

interpretation gaps and the mixed level of uncertainty due to differing systems of thought in the global governance arrangements.

3.3.6. Increasing Individual Responsibility

The exploration of discourse about the utility of theories of IR for grasping global change shows that global governance theory represents a promising frame for exploring the ethical dimensions of global change in the SD perspective.⁴¹⁵ It provides relevant input on the micro-ethical perspective of global change that is considered to be relevant in the SD perspective. Global governance theory argues that the nature of globalisation is not only extensive, forming interconnections across space, but also intensive, i.e., reaching into the level of personal conduct. It conceives global governance as one that emerges from bottom-up; from the increased skills and capacities of individuals. In this way, global governance theory directs the focus of policymakers towards the ‘micro-level’ of global order, i.e., towards the capacities and orientations of individuals and small groups.

Moreover, global governance theory highlights that the skills and capacities of citizenry are rising and that their horizons of identification in patterns of ‘global life’⁴¹⁶ are altering. Hence it enables policymakers to address and study the personal responsibility that represents a central element of the SD concept as a symptom of altering ethical horizons of identification in patterns of global life and affairs. For example, it allows them to anticipate and understand the increasing intensity and importance of activities of philanthropists when adjusting governance for more SD.⁴¹⁷ In fact, the end of the 20th century saw a flowering of wealth due to globalisation processes in combination with the rising asset prices and technology. By pointing the view of policymakers on the micro-ethical dimensions of global change, global governance theory allows policymakers to detect processes such as the allocation of the biggest chunk of

⁴¹⁵ See Table 4.

⁴¹⁶ Rosenau, 1995.

⁴¹⁷ Scholars at John Hopkins University in Baltimore, who studies 35 countries in 1990ties, came to conclusion that at that time the private donations account for only about a tenth of charitable spending worth approximately \$1.3 trillion. However, according to the Economist that tenth matters beyond its size (The Economist, 2006a).

philanthropic capital in history that was made in June 2006 by Warren Buffet. Furthermore, it opens the view of policymakers for the private donor foundations as a source of discipline and innovation for charities. For example, in 2010, Bill Gates and Warren Buffett have secured \$125 billion from forty families and individuals on the Forbes 400 list of the wealthiest Americans, who have pledged at least half of their wealth to charitable causes.

To conclude, this chapter shows that theories of IR offer exhaustive inputs on how global change, i.e., change in the patterns of global governance occurs. However, although there is no 'best jar' to observe global change, these theories differ highly in their capacity to serve as reference frames for observing it in the SD perspective. The chapter shows that in order to tackle global change in sustainability perspective, policymakers need to emancipate themselves from framing it in terms of the realist, pluralist and globalist theories of IR that represent derivatives of old paradigm thinking. As the concept of SD originates from new paradigm thinking, they should rely on theoretical derivatives of new paradigm thinking in order to perceive global change in a way that is relevant through sustainability lens. In particular, global governance theory proved to be a promising reference frame for observing global change in the SD, as it offers several categories, perspectives and tool for observing the global, long-term, multi-issue, dialectic, multi-actor and micro-ethical aspects of global change. In this way, global governance points towards some of the central cognitive challenges of policymakers in terms of accounting for implications of global change in the SD perspective that policy analysts need to address in order to inform governance for SD.

However, the critical discussion of the utility of global governance theory for framing global change through sustainability lens in this chapter is subject to several limitations. First, the exploration of the epistemological value of global governance theory focuses exclusively on its strengths in terms of informing the political thinking. The analytical and conceptual shortcomings and limitations of global governance theory are disregarded, as this is of minor relevance to the central interest of this thesis. Furthermore, the thesis also does not examine numerous chances and challenges of integration of the theory of global governance with other theories of IR in order to gain

a further and even more comprehensive insight into the nature, sources and implications of global change. All these limitations represent areas for further research.

4. Theoretical Shortcomings of Mainstream Policy Analysis for Governance for Sustainable Development

*The world, as we perceive it, is our own invention.
(Heinz von Foerster, 1984)*

When aiming to adapt governance for more SD, policymakers encounter a broad range of complex cognitive barriers.⁴¹⁸ In consequence, they increasingly turn to policy analysts for reasoned and strategic policy advice. However, policy analysts face a number of cognitive dilemmas when trying to inform governance for SD. The chapter explores these dilemmas in greater detail by critically reflecting the mainstream theoretical approaches to policy analysis. It strives to bring the often deeply-rooted implicit theoretical reference frames of policy analysts to surface for conscious examination. Drawing on the interpretative methodology, it is argued that the perception of policy analysts is always *theoriebeladen*.⁴¹⁹ As a result, their capacity to support policymakers at overcoming the cognitive barriers in terms of perceiving governance in the SD perspective is importantly determined by the underlying theoretical presumptions that serve them as orientation points for observing the societal reality and for designing policy advice.

In order to determine the epistemological shortcomings of the mainstream theoretical approaches to policy analysis in terms of informing governance for SD, the chapter focuses on exploring how they limit the capacity of policy analysts to help policymakers grasp the discursive nature of the concept of SD,⁴²⁰ to make sustainability shift in their political thinking,⁴²¹ and to account for global change through sustainability lens.⁴²² The chapter thereby follows twofold purposes. On one hand, it aims to propose a typology of epistemological frontiers of mainstream theoretical approaches to policy analysis for governance for SD. On the other hand, it strives to outline the epistemological needs

⁴¹⁸ See chapters 2 and 3.

⁴¹⁹ Lamnek, 1995, pp. 24.

⁴²⁰ See chapter 2.3.

⁴²¹ See chapter 2.4.

⁴²² See chapter 3.

that policy analysts should address when aiming to adapt their theoretical frames as to increase their capacity to inform governance for SD. Policy analysis is thereby studied exclusively as a sub-discipline of political science.

The chapter is structured in four parts. *Part 1* outlines how the distinct notion of policy analysis adopted in this thesis determines the scope of inquiry of the capacity of mainstream policy analysts to inform governance for SD. Thereby, it focuses on outlining the analytical foci of policy analysis that importantly determine the capacity of policy analysts to help policymakers overcome their cognitive barriers to adapting governance for more SD and the mainstream approaches to its conduct. *Part 2* studies the capacity of policy analysts to assist policymakers at accounting for discursive nature of the SD concept by eliciting their theoretical assumptions about the role of the SD concept for and in policymaking. *Part 3* inquires the ability of policy analysts to aid policymakers make a sustainability shift in their political thinking by critically reflecting their assumptions about the ways in which policymakers acquire knowledge. Learning theories, ranging from behaviourist to cognitive and constructivist learning theories are consulted as reference frames. *Part 4* relies on theories of IR to deconstruct the cognitive dilemmas of policy analysts in terms of promoting policymakers' ability to account for global change in the SD perspective. *Part 5* illustrates the main epistemological needs of policy analysis for governance for SD that should serve policy analysts as orientation points in enhancing their theoretical frames.

4.1. Policy Analysis as Social Praxis

Today, policy analysis represents a highly heterogeneous research field that “appears as a jungle of diverse and conflicting modes of inquiry, full of inconsistent terminologies, divergent intellectual styles – perhaps, indeed, incommensurable paradigms.”⁴²³ However, when scholars discuss the analytical and the epistemological value of policy analysis, they often discuss it as a monolithic and static tool, which is largely de-privatised from persons and contexts behind its conduct.

⁴²³ Torgerson, 1986, pp. 33.

This thesis distances itself from the notion of policy analysis as a monolithic entity that exists independently from context and actors. When inquiring policy analysis, it approaches it as a social praxis that is conducted by policy analysts with highly diverse backgrounds and experiences. Instead of focusing on the basic facts about policy analysis ('know-that') or on the tools and procedures to be used in policy analysis process ('know-how'), the thesis focuses on the mind-set of policy analysts. It observes the cognitive frames that importantly determine the observation and the practice of policy analysis for governance for SD ('knowing-in-action', 'reflection in action').

4.1.1. Policy Analysis and Political Science

From historical point of view, policy analysis first emerged as a programme of scholarly work in 1951 in the USA when the US political scientist Harold D. Lasswell published first proposals and frameworks for policy analysis in the book 'The Policy Sciences'.⁴²⁴ Initially, he saw policy analysis as a multidisciplinary project devoted to the norms and values of democratic governance with the aim "to bring the theories and methods of social science to bear on pressing social and economic problems confronting modern society."⁴²⁵ The original concept of policy analysis also outlined its distinct teleological component (i.e., informing decision making), its axiological component (i.e., ethical value belief in democracy) and its ideological component (i.e., creating knowledge to support better humankind, freedom and welfare for future generations).

After a slow start in the 1950ties, policy analysis has been progressing with high speed since the early 1960ties. In the USA, policy analysis evolved into a professional activity by the mid-1970ties and is now represented in universities and institutes, PhD degree programmes as well as in professional journals and textbooks.⁴²⁶ In the EU, policy analysis became an acknowledged field of study with some delay and programmatic deviations in the late 1970ties.⁴²⁷ Over the last three decades, policy analysis however

⁴²⁴ In the US American literature, 'policy analysis' is also referred to as 'policy sciences'.

⁴²⁵ Fisher, 2003, pp. 17.

⁴²⁶ Bell, 2003a, pp. 53.

⁴²⁷ H  ritier, 1993; Holzinger, 2004.

grew into a full-fledged professional activity in the EU that is practiced across many domains, ranging from social sciences such as economics and political science. It now represents an internationally acknowledged and institutionalised field of applied research. As the relevance of policy analysis for practical policy advising has been rising,⁴²⁸ policy analysts became part of decision-making process in wide variety of programmes all over the world.

This thesis focuses exclusively on studying the advisory policy analysis,⁴²⁹ i.e., policy analysis that takes the form of ‘advisory science’⁴³⁰ aiming to develop knowledge relevant to formulation and implementation of public policy. Moreover, policy analysis is discussed exclusively as a sub-discipline of political science.⁴³¹ Schubert and Bandelow⁴³² argue that policy analysis achieved the status of paradigm thinking within political science as an action- and policy-oriented sub-discipline of political science that is aimed at using analytical techniques and knowledge for and in policy-making. However, policy analysis lacks a unified theoretical, methodological or methodical body of its own.⁴³³ Political scientists tend to rely on diverse theoretical and methodological approaches as well as methods that were developed within other scientific disciplines.

4.1.2. Analytical Dimensions of Advisory Policy Analysis

Policy analysis represents a distinctive perspective on the world of politics. It is a manner of simplification of the complexity and dynamics of the political affairs. This raises the question how does the capacity of policy analysts to support policymakers at tackling the cognitive barriers to framing governance in the SD perspective⁴³⁴ depend from their way to study the central analytical dimensions of policy analysis?

⁴²⁸ H ritier, 1993; Majone, 1993; Bandelow, 2003; Wewer, 2003.

⁴²⁹ Bandelow (2003) refers to the advisory type of policy analysis as ‘advisory policy analysis’.

⁴³⁰ H ritier, 1993.

⁴³¹ E.g., Schubert/ Bandelow, 2003; Fischer, 2003; Bell, 2003a.

⁴³² Schubert/ Bandelow, 2003.

⁴³³ Torgeson, 1986; Schubert/ Bandelow, 2003.

⁴³⁴ See chapters 2 and 3.

The content dimension of policy processes, better known as the ‘policy dimension’⁴³⁵ of policymaking, represents the central research object of policy analysis.⁴³⁶ Policy analysts typically focus on questions such as what do political actors do, why they do it, and what difference it makes.⁴³⁷ They are primarily interested in reasons, requirements and implications for the creation of political contents as well as with their consequences and effects. For example, they are concerned with the question, what political strategies and actions (materialised for example in form of political programmes or coalition contracts between parties) are/were necessary to achieve political goals such as the long-term objective of the EU objective to work for the SD of Europe. According to research data, the distinct notion and understanding of the content dimension of policymaking importantly determines the capacity of policy analysts to help policymakers account for discursive nature of the SD concept.

Secondly, the capacity of policy analysts to assist policymakers at making a sustainability shift in their political thinking is in large part determined by their understanding of policy learning and knowledge. The generation and dissemination of policy relevant knowledge represents a central purpose of advisory policy analysis. With other words, policy analysts commonly share the aim to develop a science of policy forming and execution, and contribute to the decision process by creating relevant information and interpretations to policy issues.⁴³⁸ They explore policy processes with the aim to provide policy relevant information and knowledge to assist decision making processes of individual or collective actors.⁴³⁹ This aim represents a distinct inherent teleological orientation of policy analysts.

Nevertheless, the capacity of policy analysts to facilitate the policymakers’ perception of global change in the SD perspective largely depends from the theoretical frames that

⁴³⁵ This focus is informed by a three-dimensional ‘policy-politics-polity’ concept of policymaking. According to Rüdiger (1992), the three-dimensional model of policymaking represents the most widely adopted concept in policy sciences. ‘Polity’ factors represent the formal dimensions of policy processes and for example include political order, institutions and norms. ‘Politics’ means the procedural dimension of policy processes and includes factors such as for example more or less conflictual processes of enforcement of goals, contents and distributional decisions.

⁴³⁶ Saretzki, 2003.

⁴³⁷ Interview with Holzinger, 2004; Interview with Wagenaar, 2003; Schubert/ Bandelow, 2003.

⁴³⁸ Bell, 2003a.

⁴³⁹ Bell, 2003a.

they rely on in order to observe the changing IR. This is by far not an exhaustive list of the central analytical foci of policy analysts that determine their capacity to help policymakers at accounting for discursive nature of the SD concept, making sustainability shifts in political thinking and at tackling global change through the sustainability lens. However, it enables to systematically outline the capacity of policy analysts to provide policy advice that would support policymakers at tackling these three cognitive challenges, the exploration needs to focus on the threefold basic analytical dimensions of policy analysis: (1) content dimensions as the research focus of policy analysis, (2) policy learning as its purpose, and (3) global change as the contextual condition.⁴⁴⁰

4.1.3. Theoretical Approaches to Policy Analysis

Policy analysts tend to adopt highly differing theoretical approaches to observe policy dimension of policymaking as their research object, to promote policy learning as the research purpose, and to observe the changing IR as the research context. These approaches enable them to simplify the complex reality. They guide the selectivity of policy analysts' perception, i.e., they determine their sensitivity and blindness for aspects of social reality.⁴⁴¹ In turn, they importantly determine the foci and the outcomes of their policy inquiry.

The theoretical approaches taken by policy analysts largely represent derivatives of the distinct paradigm thinking that they are ascribed to. The conduct of policy analysis is thereby commonly informed by two schools of paradigm thinking. On one hand, policy analysts ascribed to old paradigm thinking⁴⁴² commonly adopt the 'positivist', 'behaviourist', 'empiricist', 'critical rationalist' or the 'technocratic' approaches to policy analysis. On the other hand, policy analysts ascribed to new paradigm thinking⁴⁴³ typically follow 'constructivist', 'constructionist', 'postmodernist', 'post-positivist',

⁴⁴⁰ See chapters 4.2., 4.3. and 4.4.

⁴⁴¹ H  ritier, 1993; Fischer, 2003b.

⁴⁴² Drawing on Fischer (2003), this thesis uses the term 'positivist policy analysis' when referring to the policy analytical research that follows the principles of old paradigm thinking. See Table 3.

⁴⁴³ Fischer, 2003; Hewson/ Sinclair, 1999; Interview with Wagenaar, 2003. For more on new paradigm thinking see Table 3.

‘post-empiricist’ ‘interpretative’, ‘discursive’ or ‘deliberative’ approaches to policy analysis. These approaches began to emerge after the ‘argumentative turn in policy analysis and planning’⁴⁴⁴ as a reaction to the criticisms of the mainstream positivist approaches to conduct of policy analysis in the early 80ties.⁴⁴⁵ Policy analysts following these approaches distance themselves from the causal and deterministic explanations of policymaking common to positivist policy analysis and, instead, aim at exploring and enhancing the argumentative spectrum of policymaking.

Depending on their distinct paradigm thinking, policy analysts study the three basic analytical dimensions of policy analysis in different ways. Policy analysts relying on old paradigm thinking tend to have highly fragmented and static understanding of policies as final static outputs and outcomes of single phases of policy process. In contrast, policy analysts ascribed to new paradigm thinking largely understand and inquire policy processes as a discourse. The discursive perspective enables them to account policies as fluid discursive entities, which are continuously subverted to ‘political life’.⁴⁴⁶ Depending on their paradigm thinking, policy analysts also tend to exhibit highly differing notions of policy learning.⁴⁴⁷ Policy analysts informed by the paradigm thinking for example tend to understand and support policy learning as adaptation and improvement learning. As a result, they strive to support policymakers in a way that promotes their ‘simple learning’, ‘single-loop learning’, ‘proto-learning’ and ‘instrumental learning’. In contrast, policy analysts ascribed to new paradigm thinking tend to rely on the notion of policy learning as complex learning that results in change of values and beliefs and goals of policymakers. They see their primary task in assisting policymakers to understand how the basic paradigms behind political programmes change. In short, they strive to promote their ‘change learning’ or ‘double-loop learning’. Only since recently, some policy analysts increasingly rely on the post-modern notion of policy learning as reflexive learning that represents a derivate of new

⁴⁴⁴ Fischer / Forester, 1993.

⁴⁴⁵ Fisher, 2003; Héritier, 1993.

⁴⁴⁶ Fischer, 1989. For an exhaustive discussion of models of policy processes to be observed within the policy analytical discourse see also Sabatiér, 1999.

⁴⁴⁷ For more on models of policy learning see Bandelow, 2003.

paradigm thinking.⁴⁴⁸ They are primarily concerned with helping policymakers to react on new information more rapidly and flexibly. They understand policy learning as learning how to learn. Their primary goal is thus to support the learning capacities of policymakers. Nevertheless, while policy analysts relying on old paradigm thinking observe the change within the existing structures and systems of global governance, policy analysts relying on new paradigm thinking focus on studying the meta-change, i.e., the restructuration of the existing systems and change of paradigms within which policymakers operate.

To conclude, the distinct paradigm thinking of policy analysts, guiding their choice of theoretical frames, importantly determines the epistemological power and value of policy analysis for informing governance for SD. Drawing on Fischer,⁴⁴⁹ this thesis in continuation uses the term ‘positivist policy analysis’ when referring to the policy analytical research that follows the principles of old paradigm thinking⁴⁵⁰ and the term ‘constructivist policy analysis’ to refer to policy analysis following the principles of new paradigm thinking. Now, let us take a look which type of paradigm thinking – positivist or constructivist - represents the mainstream reference point of policy analysts in empirical practice.

4.1.4. Mainstream Positivist Approach to Advisory Policy Analysis

According to research data, policy analysts tend to rely on both, positivist and constructivist approaches to policy analysis. However, while both paradigmatic approaches co-exist in the policy research practice, they are by far not equally acknowledged and adopted by the policy analysis community. Although neither the constructivist nor the positivist approach to exercising policy analysis has the status of complete dominance in the EU policy research, scholars⁴⁵¹ agree that positivist

⁴⁴⁸ In contrast to ‘simple learning’ and ‘complex learning’, which represent the types of ‘proto-learning’ or ‘first-order learning’, the ‘reflexive learning’ represents a type of ‘meta-learning’ and is also referred to as ‘deutero learning’, ‘second-order learning’ or ‘process-learning’ (Bandelow, 2003).

⁴⁴⁹ Fischer, 2003b.

⁴⁵⁰ Haas, 1992.

⁴⁵¹ Morgan et al., 1999; Hajer / Wagenaar, 2003; Fischer / Forester, 1993; Fischer, 2003a; 2003b; Gottweis, 2003a; 2003b; Finlayson, 2004a; 2004b; Yanow / Schwartz-Shea, 2006; Yanow, 1993; 2000; 2003; 2006; 2007.

approach clearly dominates the empirical practice of policy analysis. It represents the institutionalised form of policy research and a general preference of policy analysts. Thereby, Fischer warns that “although few [policy analysts] describe themselves as positivists in traditional terms, many of positivism’s basic tenets are still well embedded in both research practices and institutional decision processes.”⁴⁵²

Positivist approach to conduct of policy analysis hence represents the ‘mainstream’ approach to practice of policy analysis. It importantly defines the capacity of policy analysts to gain policy-relevant insights as it determines their preference for research perspectives, aspects and tools chosen when conducting policy analysis. In fact, “the past three decades have witnessed an explosive growth in the development and use of tools for quantitative policy analysis.”⁴⁵³ When inquiring and discussing mainstream policy analysis practices, this thesis hence focuses exclusively on critically discussing the practices and conduct of positivist policy analysis that is based on theories deriving from old paradigm thinking.

4.2. Limited Capacity to Account for Discursive Nature of the Sustainable Development Concept

The research evidence shows that the reliance of mainstream policy analysts on the positivist models of policymaking that derive from old paradigm thinking⁴⁵⁴ severely restrict their capacity to help policymakers tackle the discursive nature of the SD concept.⁴⁵⁵ In particular, the conception of policymaking as phase-focused and rational processes and the notion of policies as bounded and invariable outputs restrict their ability to provide targeted policy advice on adapting governance for more SD.

⁴⁵² Fischer, 2003, pp. 210.

⁴⁵³ Morgan et al., 1999.

⁴⁵⁴ See Table 3.

⁴⁵⁵ See chapter 2.3.

4.2.1. Phase-focused and Rational Notion of Policy Process

By drawing on the positivist theories of policymaking, mainstream policy analysts ground their empirical research on the following assumptions about the nature of policymaking that limit their ability to help policymakers empirically account for discursive nature of the SD concept:

Assumption that policymaking represents a one-way cycle, consisting of functionally separated rigid phases that follow each other as if on assembly line. Policy analysts tend to rely on the phase-model of policymaking that typically includes the following three phases: policy formulation (problem perception, problem definition, agenda setting, goal formulation and decision finding), policy implementation (programme operationalisation, acquirement of resources, value distributions, application of norms and policy decisions), and policy impact and evaluation.⁴⁵⁶ Such production line model also informs the research design of policy analysis as a process that is divided into separate phases; problem definition, weighting of alternative solutions, assumptions of one solution, and testing and evaluating the outcomes.⁴⁵⁷ The reliance of policy analysts on such a phase-model of policymaking enables them to study policy processes in manageable segments.⁴⁵⁸ However, it is highly inappropriate for helping policymakers to tackle the discursive nature of the SD concept, for it implies that the SD concept represents a static concept that may be ‘injected’ into single phases of policy processes. It also suggests that it is not necessary to account for simultaneous and multidirectional emergence of phases or for their mutual interdependence when integrating the concept of SD into policymaking.⁴⁵⁹

⁴⁵⁶ Holzinger, 2004.

⁴⁵⁷ The phase heuristic was originally developed on the basis of writings by Easton (1965) and Lasswell (1951). While Easton developed a rather functionally-oriented model of policy process (consisting of input, throughput, output and feed-back), Lasswell introduced a rather advise-oriented set of phases (including information collection, recommendation, prescription, advice, invocation, application, compliance and completion) (Sabatiér, 1993).

⁴⁵⁸ The model, among others, contributed to development of the process-perspective on policy process, of analysis of phenomena that transcend the institutional borders and of focus on policy implications. (Sabatiér, 1993, pp. 117).

⁴⁵⁹ Sabatiér, 1993; Héritier, 1993.

Assumption that policymaking represents a rationality project. Policy analysts tend to conceive the policymaking as a rationality project, in which ideas, values, arguments and beliefs serve exclusively to legitimise the interests. The change in policies is in the first place ascribed to the change in economic conditions, group pressures, new technologies and institutional changes. With other words, policy analysts understand policymaking solely in terms of power and interests.⁴⁶⁰ On the basis of such instrumental understanding of policy process, policy analysts fail to explore the relevance of values and ideas such as the SD concept for policymaking. Consequently, they miss the opportunity to see the SD concept as a chance to further develop human capacities and to transform preferences. Furthermore, they fail to capture the struggle over different concepts of SD as “a medium of exchange and a mode of influence even more powerful than money and votes and guns.”⁴⁶¹ The model of policy process as a rationality project virtually “bleeds the political life out of the policymaking process, leaving little room for the dilemmas, contradictions, and paradoxes that characterize the interesting and difficult political problems.”⁴⁶²

The reliance of policy analysts on the phase-focused and rationalist models enables them to gain a certain degree of analytical clarity. However, these models are highly inappropriate reference frames for conducting policy analysis for governance for SD as they severely restrict the capacity of policy analysts to help policymakers tackle the discursive nature of the SD concept.

4.2.2. Policies as Bounded and Invariable Outputs

When grounding their research on the positivist models of policymaking, mainstream policy analysts tend to adopt the following assumptions about the nature and implications of policies that severely restrict their capacity to assist policymakers at accounting for the concept of SD as a discursive, fluid, socially constructed concept that demands continuous justification and negotiation in public debate:

⁴⁶⁰ Héritier, 1993, pp.17.

⁴⁶¹ Stone, 1988, pp. 7.

⁴⁶² Fischer, 1989, pp. 994.

Assumption that policies represent invariable and objective variables. The policy analysts' notion of policies as static independent variables facilitates the anticipation of complex policy implications, for it implies that there are always losers and winners of a distinct policy. However, in the SD concept, this notion prevents policy analysts to account for policies as 'moving targets'⁴⁶³ that continuously develop and change in the time of their being. It disables them to grasp policies and political contents as interpretable entities that have an infinite number of facets. This notion closes the view of policy analysts for the alternative interpretations of policies, which represents a supreme instrument of power because alternatives enable the choice of conflicts, and the choice of conflicts allocates power.⁴⁶⁴ As a result, mainstream policy analysts largely fail to outline the scope and the range of conflict about the policies in a way that would make the acceptance and integration of the SD concept into policies probable. In consequence, they fail to promote the capacity of policymakers to grasp policies as processes of political debate and to perceive the scope of policy conflict that makes the adoption and integration of concept of SD probable.

Assumption that policies represent bounded objects, which can be separated from each other and studied as independent objects. Mainstream policy analysts tend to conceive single policies as bounded objects. As a result, they remain blind for the interactions between the policies, i.e., for the ways in which they overlap and reciprocally affect each other.⁴⁶⁵ They fall short of accounting for the sectoral, functional and international interweavement of policies. They overlook that policies represent parameters for success of other policies. In the SD context, mainstream policy analysts hence fail to inform policymakers about the embedding of policies in the 'policy landscape',⁴⁶⁶ i.e., about the positive and negative external effects single policies (actions and strategies) create for other policies. They will also lack the capacity to help policymakers grasp policies as self-generating entities that often create negative overspill-effects thus creating a demand for new policies to overcome these effects. In short, they fail to promote horizontal policy integration.

⁴⁶³ Héritier, 1993.

⁴⁶⁴ Schattschneider, 1967, pp. 68.

⁴⁶⁵ Héritier, 1993.

⁴⁶⁶ Héritier, 1993.

Assumption that policies are following static goals. Mainstream policy analysts tend to assume that the policies represent the final solutions to policy goals, which represent static and fixed aspirations. This understanding of policies has severe negative impact on the capacity of policy analysts to help policymakers account for discursive nature of the SD concept as an overarching policy goal of the EU. It results in the belief that the SD concept does not need to be continuously questioned, adapted and improved in relation to the changing contextual conditions in interaction with the general public. Mainstream policy analysts thus fail to consider the ways in which the preferences and goals of policymakers are continuously changing. They also fail to help policymakers account for the ambivalent and dynamic nature of the SD.

In order to improve their capacity to aid policymakers tackle the discursive nature of the SD concept, policy analysts thus need to distance themselves from the positivist models of policies as bounded and invariable inputs of policy processes.

4.3. Limited Capacity to Support Mind-Shifts in Political Thinking

Confucius argued: “Tell me and I forget. Show me and I remember. Let me do and I understand.”⁴⁶⁷ Accordingly, the capacity of policy analysts to support policymakers at making sustainability shifts in political thinking⁴⁶⁸ largely depends on the way they conceive and understand policy learning as the central purpose of policy analysis. However, mainstream policy analysts tend to conceive policy learning in a way that severely opposes the Confucius’ approach. This is because their notion of policy learning is informed by one of the following two theories of learning deriving from old paradigm thinking;⁴⁶⁹ the behaviourist theory of learning⁴⁷⁰ from the late 60ties and the cognitivist theory of learning⁴⁷¹ from the late 80ties. In continuation, it will be shown how and why these notions severely restrict the capacity of policy analysts to support

⁴⁶⁷ Attributed to Confucius, 551 BC - 479 BC.

⁴⁶⁸ See chapter 2.4.

⁴⁶⁹ See Table 3.

⁴⁷⁰ For detailed discussion of the behaviorist theory of knowledge see Baumgartner et al., 2000.

⁴⁷¹ For detailed discussion of the cognitivist theory of knowledge see Baumgartner et al., 2000.

policymakers at making mind-shifts in temporal, spatial, fact, dynamic, power and ethical dimensions of political thinking in a way that would allow them to observe governance through sustainability lens.

4.3.1. Behaviourist Stimulus-Response Notion of Policy Learning

When relying on the behaviourist notion of policy-relevant knowledge, mainstream policy analysts typically conceive it as a static good, which can be transmitted from the head of the experts to the head of the policymaker (the ‘Nürnberg Trichter’ model). Thereby, they consider the brain of policymakers as a ‘black box’,⁴⁷² which receives an expert input and reacts on it in deterministic way.⁴⁷³ They see it as a passive container that needs to be filled.

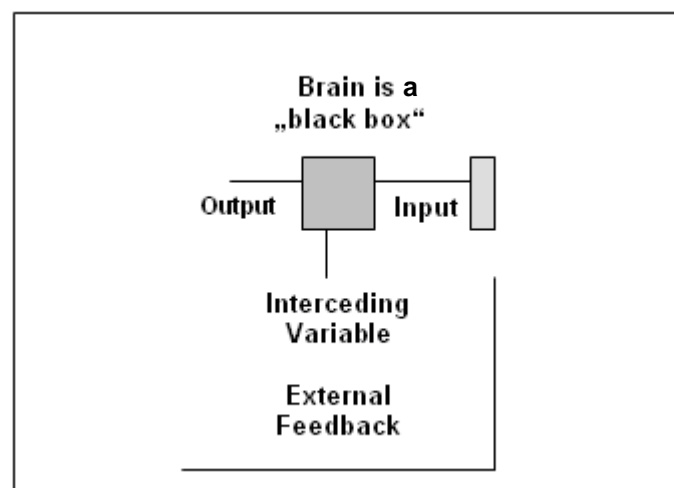


Figure 5: Behaviourist Model of Learning⁴⁷⁴

Consequently, policy analysts understand policy learning as a transfer of available policy-relevant factual ‘know-that’ knowledge. They see themselves as actors who know, what and how the learners should learn and whose primary task is to transmit their knowledge to policymakers. They strive to present the appropriate stimulus in order to evoke learning and knowledge, i.e., a conditioned reflex of adaptation on the external world.

⁴⁷² Baumgartner, 2001.

⁴⁷³ See Figure 5.

⁴⁷⁴ Figure adapted from Baumgartner, 2001.

Policy analysts informed by the behaviourist model of learning are not primarily interested in conscious (cognitive) regulation processes, but in behavioural regulation. Consequently, they see themselves in focus of attention. For them, policymakers have a rather passive role in the learning process. They need to remember and recognise the learned. They need to simply give the ‘right’ answers on the questions, the answers to which are already known. For mainstream policy analysts, the quality of policy learning hence in the first place depends from the choice and preparation of the knowledge in a way that enables most efficient knowledge transmission. Due to such one-way linear understanding of learning, they see themselves as ‘Philosophenkönige’⁴⁷⁵ selling and transmitting knowledge to their loyal subjects, the policymakers. They have an ‘elitist’⁴⁷⁶ self-understanding of their role as policy advisors.

Policy analysts who have such instrumental and simple notion of knowledge as know-what knowledge are typically interested in assessment of efficiency and effectiveness of policy programmes. In the context of SD this means that they are primarily concerned with explaining and showing how policymakers can design ‘better’, i.e., more efficient, effective or legitimate governance for SD.⁴⁷⁷ When disseminating policy-relevant knowledge, policy analysts who are informed by the behaviourist notion of knowledge tend to rely on didactic methods of knowledge transmission such as frontal instruction and elaboration of closed expert papers, which they present to policymakers without demanding for their explicit feed-back or input. The main outputs of policy analysts represent written reports that include policy alternatives, evaluations, designs, theories, suggestions, warnings, long range plans, statistics, predictions, tests, analyses or simply new ideas, and that are written in a highly self-explanatory way, i.e., without the explicit consideration of the interpretative gap between policymakers and policy analysts.

⁴⁷⁵ Lösch, 2005.

⁴⁷⁶ Lösch, 2005.

⁴⁷⁷ There are highly differing notions of the concepts of efficiency and effectiveness to be found in policy discourse. This thesis relies on the definitions of efficiency and effectiveness as conceived by Bandelow: “Die Effektivität bezeichnet den Grad der Wirksamkeit, sagt also aus, wie gut ein Ziel erreicht wird. Die Effektivität vergleicht das Ergebnis (Outcome) mit dem Ziel. Bei der Optimierung der Effektivität geht es darum, ‘die richtigen Dinge zu tun’. Effizient bezeichnet daher die Wirtschaftlichkeit des Mitteleinsatzes, gibt also das Verhältnis von Wirkung und Kosten an. Die Effizienz vergleicht die erbrachten Leistungen mit den Kosten. Bei der Optimierung der Effizienz geht es somit darum, ‘die Dinge richtig zu tun’“ (Bandelow, 2003, pp. 305).

By seeing policymakers as passive stimulus-receivers, policy analysts disregard the problems and challenges of overcoming the interpretative gap between policymakers and their own knowledge. The behaviourist stimulus-response understanding of policy learning is thus clearly inappropriate to serve as a reference frame for generating and disseminating policy-relevant advice that would support policymakers at making mind-shifts in their political thinking.

4.3.2. Cognitivist Notion of Policy Problems as Objectively Given

When relying on the cognitivist notion of policy learning,⁴⁷⁸ policy analysts consider the inner processes of the human brain as being relevant. Thereby, they assume that the brain of policymakers is capable of processing and transforming information.⁴⁷⁹ As a result, policy analysts conceive policy learning as a dialogue between policymakers and policy analysts. They see themselves as tutors, who advise, help and demonstrate to policymakers how to choose the adequate methods and procedures to solve predetermined policy problems. Consequently, they primarily aim to inform policymakers about the ‘right’ procedures and methods to solve policy problems. However, they do not strive to change the basic beliefs and goals of policymakers. Rather, they strive to help policymakers learn the methods and procedures and methods, i.e., the ‘know-how’. Policymakers are expected to produce one or several answers by applying these methods and procedures. This expectation of policy analysts opposes the behaviourist expectation that policymakers can produce only one right answer on certain stimuli.

There are numberless examples of policy analytical advice that is based on cognitivist understanding of policy learning. Highly popular didactic methods of policy analysts who are informed by cognitivist notion of learning for example represent workshops in

⁴⁷⁸ According to Baumgartner (2001), the cognitivist notion of policy learning (see Table 3) cannot be clearly epistemologically positioned. Cognitivist notion, however, can be ascribed to critical rationalism as it assumes that the mental representations have a rather illustrative character. It is also highly compatible with scepticisms, as it sees the mental representations are primarily as products of the brain. The cognitivist notion of learning emerged in order to reduce the restrictions of the behaviourist perspective on policy learning.

⁴⁷⁹ See Figure 6.

which policymakers are expected to interactively discuss the fixed lists of individual policy problems and challenges. Policy analysts present and treat policy problems as given and as context independent. They (or policymakers) formulate them before the start of workshops, which then focus on finding and applying methods to solve them. Policy analysts do not urge policymakers to critically reflect and question these predefined problems and possible interconnections between them prior, during on after the workshops. In practice, policy analysts with the cognitivist notion of policy learning, therefore, largely fail to help policymakers account for formability and relative randomness in definition of policy problems and for the ways how they are defined through diverging perspectives on their sources, implications and meanings in the social context, because they conceive policy problems as objectively given problems that are waiting to get solved.

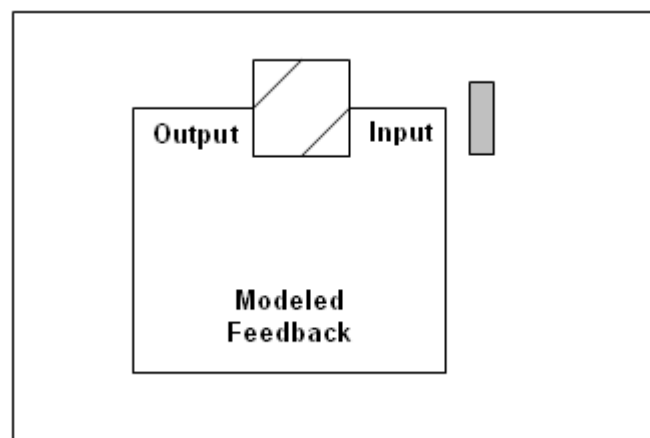


Figure 6: Cognitivist Model of Learning⁴⁸⁰

The cognitivist notion of policy learning is a highly popular among policy analysts because it saves time and is didactically simple. However, policy analysis based on such notion is highly restricted and even obsolete when it comes to promoting sustainability shifts in political thinking of policymakers. This is because the sustainability shift in political thinking starts with a shift in constructing and framing policy problems. So as to solve policy problems in terms of translating the SD concept into policymaking, these problems first need to be perceived, i.e., constructed and critically reflected.

⁴⁸⁰ Figure adapted from Baumgartner, 2001.

4.4. Limited Capacity to Grasp Global Change

According to research evidence, the reliance of policymakers on theories of IR that derive from old paradigm thinking⁴⁸¹ severely limits their capacity to aid policymakers observe the temporal, spatial, fact, dynamic, power and ethical perspectives of global change in the SD perspective. These positivist theories of IR, among others, include the realist, liberalist, pluralist and globalist theories of IR.⁴⁸² In particular, the following assumptions about the patterns of IR severely restrict the capacity of policy analysts to help policymakers account for the impact of global change in the SD perspective: (1) the short-term and temporally static notion of IR, (2) the two-level notion of IR, (3) the issue-centred and causalist notion of IR, (4) the notion of linear dynamics of IR, (5) the notion of absoluteness of sovereignty and primacy of state, (6) the notion of individuals as peripheral and rational actors in the worlds politics.

4.4.1. Short-Term and Temporally Static Notion of International Relations

Mainstream policy analysts drawing on the positivist theories of IR exhibit highly limited capacity to help policymakers sensitise their political thinking on global change for the long-term perspectives. They largely fail to help policymakers account for its temporal features such as the acceleration pace of politics at all levels of community due to confounded spatial and temporal dimensions of global governance and for the fluid and dynamic nature of features of global governance such as sovereignty of states.⁴⁸³ In particular, the following assumptions about the temporal nature of the changing patterns of global cooperation severely restrict the capacity of policy analysts to help policymakers account for the implications of global change in the SD perspective:

Assumption that global governance represents a static order or structure. Policy analysts tend to map the patterns of global affairs as a static order, the existence of which is independent from temporal dimensions. This assumption derives from the liberalist and the realist perspective on IR. Liberalism conceptualises the patterns of

⁴⁸¹ See Table 3.

⁴⁸² See chapter 3.2.4.

⁴⁸³ See Table 4 and chapter 3.3.1.

global governance as issue-oriented cooperative structures and interactions. Realism frames global governance as cooperative arrangements among states and governments that are driven by ‘superpower rivalry’⁴⁸⁴ or balance of power. Due to such notion of global governance, policy analysts neglect the temporal dimension of patterns of global governance and fail to explore how they might change in the long-term.

Assumption that the patterns of global affairs are changing according to a certain pattern or that they are not changing at all. Implicit to mainstream policy analysis are the realist and liberalist assumptions that the patterns of global affairs are not changing or that they are changing according to a certain pattern. In general, mainstream policy analysts tend to rely on static deterministic models of global governance patterns, which define the future as continuation of the past. They assume that the patterns of global affairs may be controlled and managed. Such notion of global change directs the view of policy analysts toward the past and toward present when they examine possible, desirable, and probable futures of patterns in global affairs. With other words, the assumption results in an inherent present- and past-orientation of policy analysis. As a result, policy analysts fail to explicitly address the complex nature of future global change and the challenge of exploring the ontologically nonexistent future.

Assumption that the world of global affairs is state-centred. Mainstream policy analysts tend to make the primacy of states in patterns of global affairs to a paradigm. They assume that actors other than states have only a secondary status in the world politics. This deterministic assumption, largely informed by the state-centred realist or liberalist theories, makes an account for change in patterns of global affairs over long periods of time obsolete, for it produces a false certainty about the future structural conditions of global affairs. It implies the possibility of causal explanations of policymaking on global level. It suggests that the patterns of solving the global problems are not changing. In this case, policy analysts can help policymakers find short-term policy solutions to short-term policy problems that the world faces today. However, they fail to

⁴⁸⁴ Rosenau, 1999.

aid policymakers sensitise their political thinking on global change for the mid- or longer-term futures perspectives.⁴⁸⁵

This is merely an exemplary list of the assumptions that commonly inform the mainstream policy analysts' observation of the temporal nature of global change. However, it shows that they largely tend to rely on a short-term and static notion of global governance patterns that are informed by theories of IR such as liberalist or realism that derive from old paradigm thinking. Policy analysts hence need to distance themselves from using these theories as reference frames in order to improve their capacity to help policymakers account for the long-term future horizon of global change that are considered relevant in the SD context.

4.4.2. Two-Level Spatial Notion of International Relations

When grounding their inquiry on the positivist theories of IR, mainstream policy analysts exhibit restricted ability to help policymakers sensitise their thinking on global change for the global perspectives. i.e., for the non-territoriality and for the non-linearity of politics due to allocations of value in spheres of authority within and across bounded territories, as well as for the frammegrative dynamics causing the simultaneous shifts of authority to transnational and sub-national level and for the changing global order as an encompassing organic whole.⁴⁸⁶ In particular, the assumption of policy analysts *that there is a clear division between domestic (local or national) and foreign affairs* restricts their ability to help policymakers account for the spatial underpinnings of global change that are considered relevant in the SD perspective.

When policy analysts frame the patterns of global governance as a static order or a structure, where the nation states play the primary role, they remain imprisoned by the idea that the line dividing the domestic and foreign affairs serves as the cutting edge of analysis and that the nature of the world politics is inter-national. Global governance is thus conceived as “doing internationally what governments do at home.”⁴⁸⁷ The two-

⁴⁸⁵ Hewson / Sinclair, 1999; Glenn / Gordon, 2005.

⁴⁸⁶ See Table 4 and chapter 3.3.1.

⁴⁸⁷ Finkelstein, 1995, pp. 369.

level model of IR characterised by a clear division between the domestic (national and local) and foreign affairs that results in the limited ability of policy analysts to recast the territoriality of global governance patterns. The state-centric notion of global governance results in a general inability of mainstream policy analysts to grasp the truly transnational scope of global governance that is seen as relevant in the SD perspective.

The following example of policy advice on the ways to politically solve the cross-cultural policy problem of the geological change illustrates well the limitations of policy advice based on the static, two-level framing of changing patterns of global affairs in the SD context. At the end of 1990ties, the energy drilling in Louisiana, USA, removed vast quantities of subsurface liquid, which increased the rate at which the land was sinking. As a consequence, Louisiana is loosing approximately 25 square miles of wetlands every year.⁴⁸⁸ In face of this challenge, governmental policy experts advised the Louisiana state to lobby for federal money to help to replace the upstream sediments that are the delta's lifeblood. However, such local projects will not do much good in the very long run, because the success largely depends on the course of changes elsewhere on the planet. The lack of policy experts' concern with maximising joint utility functions made the advice of policy experts highly insufficient in the environmental terms.

The two-level spatial model of global affairs that policy analysts tend to rely on as to make sense of the spatial nature of the changing patterns of global cooperation derives from theories of IR that are informed by old paradigm thinking.⁴⁸⁹ As a reference frame, it severely restricts the of policy analysts' capacity to support policymakers at tackling the spatial horizons of change in patterns of global cooperation when reforming governance for more SD.

4.4.3. Issue-Centred and Causalist Notion of International Relations

Policy analysts relying on the positivist theories of IR lack the capacity to aid policymakers adopt a multi-issue, multi-perspective horizon on global change, i.e., to

⁴⁸⁸ Glick, 2004, pp. 27.

⁴⁸⁹ See Table 3.

account for the reciprocal interdependence between market and state, to explore international regimes as ‘patchwork patterns’ that are centred on multiple issues or to tackle the multi-dimensional nature of globalisation, including the informational, civil and social in addition to the economic dimension of globalisation.⁴⁹⁰ In particular, the following assumptions about the fact dimension of IR restrict their ability to help policymakers account for global change in the SD perspective:

Assumption that patterns of global governance evolve around narrow issues. Policy analysts tend to frame the patterns of global cooperation from the liberalist perspective as cooperative arrangements that focus on narrow single issue areas. They assume that there is a single public-sector policymaker who faces a single problem in the context of a single polity. Moreover, policy analysts tend to rely on the narrow issue-orientation that is characteristic for the semi-derivate of liberalist theory, i.e., for the regime theory. By referring to the totality of formal rules and norms in international law and to the informal norms and rules of behaviour as ‘regimes’, they emphasize and study governance only for single issue areas. International governance systems are seen as regimes which include “sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors’ expectations converge in a given issue area.”⁴⁹¹ They study regimes as “deliberatively constructed, partial international orders on either regional or global scale, which are intended to remove specific issue areas of international politics from the sphere of self-help behaviour.”⁴⁹² Such reductionist framing of global governance closes the view of policy analysts for global cooperation arrangements as networks that address multiple issues. Their focus on narrow issue areas has thus been a definite hindrance to study of change in the multi-issue and macro nature of global governance.⁴⁹³

Assumption that the global issues are independent. Policy analysts tend to assume that the issues addressed by the governance arrangements are largely independent. They fail to help policymakers account for the macro-issue organisational structure of global

⁴⁹⁰ See Table 4 and chapter 3.3.3.

⁴⁹¹ Krasner, 1982, pp.1, in: Karns/Mingst, 2000, pp. 42.

⁴⁹² Hasenclever, 2000, pp. 3.

⁴⁹³ Hewson / Sinclair, 1999.

governance arrangements due to their single-issue orientation when studying policymaking. In this way, policy analysts disregard the necessity of policy integration among different issue-areas in frame of global cooperation. They hence lack the capacity to provide relevant input on chances and limits of adapting governance in a way which would enable equal and simultaneous consideration of multiple issues.

Assumption that economic globalisation represents a world-wide tilt from the state to the market. The assumption of mainstream policy analysts about the nature of contemporary economic globalisation is informed by economic liberalism, a distinct strand of liberalist theory. It represents a very restricted perspective on economic globalisation, which frames the relationship between the economic globalisation and the state as a static one-way causal dependency of the state on the market. In this view, policy analysts largely fail to assist policymakers at accounting for other - especially environmental and social - dimensions of globalisation which are considered relevant in the SD perspective. The assumption prevents them to systematically consider the multi-issue and multi-sectoral perspectives of global governance, because the environmental and social dimensions do not fit into such a model of change and will thus be widely neglected.

The issue-centred notion of global change, deriving from the positivist theories of IR, severely restrict the ability of policy analysts to assist policymakers at taking account of the multi-issue nature of the changing patterns of global cooperation. This proves that the positivist theories of IR represent inadequate theoretical frames for policy analysis for governance for SD.

4.4.4. Notion of Linear Dynamics of International Relations

The reliance of mainstream policy analysts on the positivist theories of IR restricts their capacity to aid policymakers sensitise their political thinking on global change for its dialectic nature, i.e., for its dynamic features such as the dialectic nature of economic globalisation, for its contradictory effects on the human well being, and for the global

political order as all-encompassing and organic whole.⁴⁹⁴ Their ability to help policymakers tackle global change in the SD perspective is limited in particular due to the following assumptions about the dynamics of IR:

Assumption that the change in patterns of global governance is a trivial process based on the 'one-to-one' relationship between its input (stimulus, cause) and its output. Policy analysts often exhibit a deterministic understanding of change in patterns of global governance, perceiving global change as a trivial process based on the one-to-one relationship between its 'input' (stimulus, cause) and its 'output' (response, effect).⁴⁹⁵ They observe global change as being composed of one overarching trend. In consequence, policy analysts typically focus on observing the change within global structures and systems, while assuming that the internal operations of a governance system remain in one internal state. As a result, in the SD context, policy analysts fail to help policymakers account for the non-linear, complex nature of global change, due to which "the output once observed for a given input will most likely be not the same for the same input given later."⁴⁹⁶ They fail to help them observe the shifts of the societal phenomena from one internal state to another so as to understand how they change. In other words, they fail to help them account for the meta-change, i.e., the restructuration of the patterns of global governance.

Assumption that economic growth is linear and without social and environmental boundaries. This assumption is based on the realist and the (neo)liberalist models of growth that disregard the negative impact of growth and, in particular, its impacts on social and environmental aspects of societal transition. The (neo)liberalist economic globalisation perspective on global change assumes an unlimited continuation of predictable societal growth. It applies econometric models, comprising several variables, parameters and equations in order to account for the growth patterns. This belief represents a 'growth myth' that ignores the social, material and conceptual limits of economic growth. As such, it excludes the possibility of non-linear and altering change and it fails to account for the economic, environmental and social limits to

⁴⁹⁴ See Table 4 and chapter 3.3.4.

⁴⁹⁵ For more on trivial notion of societal processes see Von Foerster, 1979a.

⁴⁹⁶ Von Foerster, 1979a, pp. 6.

growth. In the SD context, such framing of growth clearly limits the capacity of policy analysts to aid policymakers acknowledge the limits to societal resources and to societal growth when reforming governance for more SD. For example, policy analysts who use these growth models as their reference frames to observe global change disregard the possibility of shocks such as the natural catastrophes, which may result in very large individual losses.

The discussion of the assumptions that mainstream policy analysts commonly adopt in order to make sense of the nature of dynamics of global change shows that a deterministic notion of growth dynamics as one-way and linear process severely limits the ability of policy analysts to support policymakers at tackling the complex and dialectic nature of global change. Policymakers drawing on positivist approach to policy analysis and in particular on theories of IR deriving from old paradigm thinking,⁴⁹⁷ therefore, largely fail to inform governance for SD.

4.4.5. Notion of Absoluteness of Sovereignty and Primacy of State

By drawing on the positivist theories of IR, mainstream policy analysts lack the capacity to help policymakers extend the power horizon in their political thinking on global change so as to observe it in the SD perspective. In particular, the following assumptions about the power distribution in the IR limit the ability of policy analysts to assist policymakers at grasping global change in the multi-actor perspective i.e., to account for the emergence of the multiple spheres of authority with relational nature, the contested nature of sovereignty, the delocalisation of the authority of territorial states into multiple directions, the increasingly distributed manner of global interactions set by governments, private, public sector managers and citizens, the shifts of authority to subnational, transnational and non-governmental level as normal features of global change, the central role of global civil society, the rising power of hyper-capitalist elites and the rise of their epistemic authority of global informational elites.⁴⁹⁸

⁴⁹⁷ See Table 3.

⁴⁹⁸ See Table 4 and chapter 3.3.5.

Assumption that the sovereignty represents an absolute, static and uniform societal phenomenon. When relying on the static concept of state sovereignty that derives from the realist theory of IR, policy analysts interpret the cooperative governance arrangements of global scope as a sign of eroding sovereignty. In the SD context, this view on global change disables them to support policymakers in accounting for change in quality and nature of sovereignty of states against the background of enhanced democratic space.

Assumption that states and governments are the essential underpinnings of the world's organisation and that other actors have no or peripheral impacts on it. Mainstream policy analysts widely share the assumption that states and governments are the essential underpinnings of the world's organisation and that other actors have no or peripheral impacts on it. However, there is some alteration in relation to the assumed extent of power of states in global governance. Whereas some policy analysts rely on the realist notion of states as the only unitary central rational actors in global governance arrangements, policy analysts that rely on the pluralist and the neoliberal theories of economic interdependence frame states as pluralistic actors, meaning that decisions are taken by individuals or collective arrangements within structures of governments acting with the authority of states. They acknowledge the importance of actors outside the framework of states as increasingly important in collaborative decision-making of global scope. However, either framed as unitary or as pluralist actors that are joined by additional non-state actors in cooperative interactions of global scope, states and governments continue to represent the centre of analysis of global governance processes. As a result, mainstream policy analysts deterministically weight the potential impact of other actors on policymaking as non-existent or as secondary in relation to the primary impact of governments and states. This framing limits their capacity to help policymakers consider the increasing role and impact of actors other than states in forming international regimes and clusters for SD.

Assumption that the cooperative and collaborative arrangements are formed by national interests. Due to their state-centric perspective, mainstream policy analysts tend to frame global governance as primarily serving the interests of single nation-

states. On one side, policy analysts who are informed by realism assume that the concern about the security and the survival in anarchic world represents the only motivation behind the governance. On the other side, policy analysts informed by liberalism assume that collaborations emerge in order to support learning and tackling of mutual (as opposed to differing) interests. In the SD context, both notions are very simplified notions of governance that limit the capacity of policy analysts to support policymakers at accounting for the possibility of multidimensional and often opposing interests behind the numerous emerging global governance arrangements, in which multiple actors do not necessarily follow the often egoist national interests.

Policy analysts assuming the absoluteness or sovereignty of states and the primacy of state in contexts in the global politics largely fail to support policymakers at tackling the multi-actor horizon in their political thinking on global change. Consequently, they lack the capacity to inform governance for SD.

4.4.6. Notion of Individuals as Peripheral and Rational Actors in the Worlds Politics

Mainstream policy analysts grounding their research in the positivist theories of IR typically lack the ability to help policymakers account for the micro-ethical perspective of global change, i.e., for the ethical features of global change such as the new personal responsibility of individuals in face of global change, for the intensive nature of globalisation, for the rising skills and capacities of individuals, and for the alteration of individual ethical horizons of identification due to patterns of global life.⁴⁹⁹ In particular, the following assumptions about the ethical dimension of the changing IR limit the capacity of policy analyst to help policymakers tackle the implications of global change in the SD perspective:

Assumption that individuals generally act in an economically rational way. Policy analysts taking realist and idealist perspective on the IR tend to assume that individuals react on the basis of economic interest, i.e., they primarily aim at maximising their own

⁴⁹⁹ Rosenau, 1995. See Table 4 and chapter 3.3.6.

profit. This assumption de-privatises individuals from their social and environmental responsibility for both, the well-being of the others as well as for the sustainment of the nature. In the SD context, it restricts the capacity of policy analysts to assist policymakers at accounting for the relevance and the changing nature of personal responsibility of each human being in the world politics. Due to such framing, policy analysts for example overlook the possibility of environmental and social stewardship, i.e., of the possibility that individuals may not accept any trade-off for large ecosystems and social systems losses.

Assumption that individuals play only a secondary and peripheral role in global governance arrangements. Drawing on the realist theory of IR, mainstream policy analysts tend to assume that the individual human beings take part in the global governance processes only by acting through the authority of states and governments or through authority of non-state organisations. In consequence, policy analysts disregard the potential of individual responsibility and power to mobilise and create communicative political spaces or to contribute to welfare. In the SD context, policy analysts hence largely fail to provide any input to policymakers striving to account for the micro-ethical dimensions of changing patterns of global affairs.

To conclude, mainstream policy analysts who frame the individuals as peripheral and primarily rationally motivated actors in the world politics lack the capacity to inform policymakers about the chances of the new responsibility ethics, i.e., of the holistic value-oriented self-awareness for adjusting governance for more SD.

4.5. Epistemological Needs for Sustainability Turn in Policy Analysis

The above systematic analysis shows that mainstream policy analysts following positivist approach to policy analysis encounter severe epistemological shortcomings. Due to their inquiry of policymaking as phase- and rationalist-oriented processes resulting in bounded and invariable policies, they lack the capacity to support policymakers at accounting for the pluralist and the discursive nature of concept of SD

because of their.⁵⁰⁰ Moreover, they have a limited ability to aid policymakers make sustainability turn in their political thinking due to behaviourist or cognitivist notions of policy learning that makes them largely insensitive to the complex nature of knowledge and for the mind-sets of policymakers.⁵⁰¹ Nevertheless, the reliance of mainstream policy analysts on the positivist theories of IR limits their ability to help policymakers tackle the implications of global change through sustainability lens.⁵⁰² They study the patterns of global affairs as short-term temporally static and state-centric phenomena, as processes evolving around narrow single issue areas, as processes following a mono-causalist linear dynamics, and as processes that are primarily determined by states and allowing only for a peripheral role of the rationally-oriented individuals and actors.⁵⁰³

Indeed, not all mainstream policy analysts make all these assumptions about the nature of policy process and policies, about the nature of knowledge and about global change, when conducting policy analysis. Even when they do, they are usually aware of limitations imposed by these assumptions and take steps to address them. At least, they discuss the implications of assumptions for the research results obtained. However, the epistemological shortcomings of these theoretical assumptions about the nature of policy process and policies, about the nature of knowledge and about global change appear to be greater in the context of SD than they are in other domains of policy analysis.⁵⁰⁴

The above epistemological shortcomings of the mainstream theoretical approaches to policy analysis point towards a wide range of complex epistemological needs that policy analysts should address so as to increase their capacity to assist policymakers at adapting governance for more SD.⁵⁰⁵ Due to high complexity of these epistemological needs that policy analysts need to address in order to increase their capacity to inform governance for SD, the thesis in continuation focuses on the following three central ones: (1) the need to account for discursive nature of policymaking, (2) the need to

⁵⁰⁰ See chapter 4.2.

⁵⁰¹ See chapter 4.3.

⁵⁰² See Table 3.

⁵⁰³ See chapter 4.4.

⁵⁰⁴ Morgan et al., 1999.

⁵⁰⁵ See Table 5.

account for social construction of policy problems, and (3) the need to account for the deep uncertainty of global change.⁵⁰⁶ These epistemological needs are considered as being decisive for sustainability shift in policy analysis. They should serve policy analysts as orientation points in enhancing not only their theoretical frames, but also their research methodological and methodical approaches to policy analysis for governance for SD.

Table 5: Epistemological Needs for Sustainability Turn in Policy Analysis

Aims of Policy Analysis	Epistemological Shortcomings	Epistemological Needs
Help Policymakers to Account for Discursive Nature of the SD Concept	<ul style="list-style-type: none"> - Phase-focused and rational notion of policy process. - Notion of policies as bounded and invariable outputs. 	Account for the discursive nature of policymaking.
Support Sustainability Mind-Shift in Political Thinking of Policymakers	<ul style="list-style-type: none"> - Behaviourist stimulus-response notion of policy learning. - Cognitivist notion of policy learning as improving problem solving. 	Account for the processes by which policymakers acquire knowledge.
Help Policymakers to Frame Global Change in the SD Perspective	<ul style="list-style-type: none"> - Short-term temporally static notion of IR. - Two-level spatial notion of IR. - Issue-centred and causalist notion of IR. - Linear Dynamics of IR - Absolute notion of sovereignty and primacy of state - Notion of individuals as peripheral and rational actors in IR. 	Account for deeply uncertain nature of the long-term global change.

4.5.1. Account for Discursive Nature of Policymaking

So as to increase their capacity to support policymakers at accounting for discursive, i.e., pluralist and value-dependent nature of the SD concept, mainstream policy analysts need to depart from their mechanistic and fragmented notions of policy processes as rationality projects, in which ideas, values, arguments and beliefs serve as mere legitimization of interests. Moreover, they should distance themselves from exploring policymaking solely in terms of power and interests as well as from treating ideas as

⁵⁰⁶ See Table 5.

properties possessed by policymakers. They also need to cease inquiring global change exclusively as change in economic conditions, as institutional change or as change due to new technologies.⁵⁰⁷ Moreover, they need to depart from studying policies as invariable, objectively given and deductively explainable social entities.

To increase the epistemological value of mainstream policy analysis in terms of informing governance for SD, policy analysts instead should focus on exploring the discursive, fluid, complex nature of policies as ‘moving targets’ that are continuously changing and developing in the course of their duration and that represent outcomes of continuous struggle over ideas, i.e., outcomes of the interpretation-lead interaction process between social actors. In addition, they should study policies as discursive constructs that turn on multiple interpretations, which are submitted to discursive or communicative power that according to Fischer “can determine the very fields of actions, including the tracks along which political action travel.”⁵⁰⁸

In order to do so in empirical practice, policy analysts not only need to enhance and adapt their positivist theoretical reference frames, but also methodological and methodical approaches in a way that will allow them to study policymaking as a continuous struggle over ideas that causes dilemmas, contradictions, plurality and paradoxes, which need to be taken into account when adapting governance for more SD in the empirical practice. In short, they should rely on the theoretical, methodological and methodical approaches that enable them to re- and de-construct the processes of interpretations that emerge in the policy interactions.

4.5.2. Notion of Policy Learning as Reflexive Learning

In order to enhance their capacity to help policymakers frame political affairs through sustainability lens, policy analysts need to distance themselves from the behaviourist notion of learning as transmission of the static good knowledge from one head to another. They also need to distance themselves from the cognitivist theory of policy learning that conceives policy problems as objectively given. This is because both

⁵⁰⁷ See chapter 2.3.

⁵⁰⁸ Fischer, 2003, pp. viii.

notions largely disable them to account for the cognitive processes and maps of policymakers and to promote sustainability mind-shift in their political thinking.

Instead of trying to transmit knowledge for solving policy problems or to find ready-made solutions to the predetermined problems, policy analysts should explicitly acknowledge that policymakers in everyday policymaking are confronted with complex, unique and unpredictable situations, and that policy problems are often not self-evident, but subjectively constructed in response to the situation. In order to promote sustainability shift in political thinking of policymakers, policy analysts in particular need to support two types of policy learning. On one hand, they should promote the ‘complex or change learning’⁵⁰⁹ of policymakers. They need to support policymakers at emancipating themselves from old paradigm thinking⁵¹⁰ and at questioning their perceptual matrixes in the SD perspective. On the other hand, they need to facilitate the ‘reflexive or deuterio learning’,⁵¹¹ i.e., they should encourage policymakers to learn to learn in order that they can react quicker and in a more flexible way on the new information, when translating the concept of SD into policymaking. They need to promote their capacity to reflect-in-action, i.e., their ability and willingness to reflect inward toward oneself as the observer. They need to help them acknowledge and take into account the many ways in which they themselves influence the research findings and what comes to be excepted knowledge.⁵¹²

Both types of learning represent derivatives of constructivist theory of policy learning that conceives policy learning as an active process by which policymakers in complex real situations construct their knowledge in relationship with the past experience. In constructivist perspective, learning is framed as a “social process of constructing and appropriating a new or revised interpretation of the meaning of one’s experience as a guide to action.”⁵¹³ Meaningful policy learning thus “occurs through self-examination of assumptions, patterns of interactions, and the operating premises of action.”⁵¹⁴ The

⁵⁰⁹ Bandelow, 2003.

⁵¹⁰ See Table 3.

⁵¹¹ Bandelow, 2003. See chapter 4.1.3.

⁵¹² Sandelowski / Barroso, 2002.

⁵¹³ Mezinow, 1994. pp. 223.

⁵¹⁴ Merickel 1998.

critical reflection can but must not “lead to transformational learning exhibited through reflective action.”⁵¹⁵

In the constructivist perspective, the brain of policymakers as the addressees of policy analysis is conceived as an autopoietic system, which is informationally closed and which has no informational input and output. Knowledge takes place only when policymakers succeed to integrate the past experiences with present information in order to set new actions (e.g., in forms of wanting, thinking, language, movement). In this perspective, policymakers are assumed to have a synergy relationship with the environment. However, they create by themselves information and knowledge that they elaborate in the process of their own cognition.⁵¹⁶

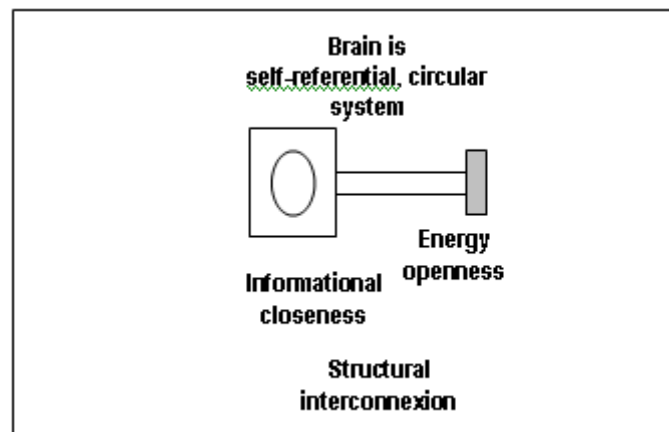


Figure 7: Constructivist Model of Learning⁵¹⁷

In constructivist perspective, policy analysts cannot transmit knowledge and information to their heads. Instead, information is seen as a process by which policymakers may or may not gain insight and knowledge. The books and the images of and about future thus do not represent information yet. They are merely the carriers of information. Moreover, in constructivist perspective, policy situations and problems do not present themselves as given, but are constructed from events that are purling, troubling and uncertain.⁵¹⁸ Consequently, policymakers are expected to learn the social

⁵¹⁵ Merickel, 1998

⁵¹⁶ See Figure 7.

⁵¹⁷ Adapted from Baumgartner, 2001.

⁵¹⁸ Schön, 1983; 1987.

practices, i.e., the ‘knowing-in-action’⁵¹⁹ (‘Handlungswissen’), which would enable them to act in reflected and exploratory way. The task of policy analysts is not to uncover and transmit the abstract (objective) truths or the right methods to policymakers as substances or goods. Rather, they should take the function of a coach who cooperates closely with policymakers and mentors them at tackling policy problems. They need to help policymakers recognise the optimum feasibility and viability of policies and support them at developing the life and survival competencies under the continuously changing conditions of reality.

So as to promote complex and reflexive policy learning as advocated by the constructivist theory perspective, policy analysts need to critically and explicitly question their own logic behind their practice of policy analysis. In particular, they should continuously reflect their theoretical, research methodological and methodical approaches to policy analysis for governance for SD in terms of their capacity to promote complex and reflexive policy learning of policymakers. Moreover, they need to reflect the competences and the boundaries of policy-relevant knowledge generated in the frame of policy analysis in light of the cognitive barriers of policymakers to adapting governance for SD. They also should explicitly address the questions of the representation, dissemination and communication of the policy knowledge in light of highly differing cognitive observation systems of policymakers.

4.5.3. Account for Deep Uncertainty of Global Change

In order to improve their ability to help policymakers frame global change in the SD perspective, mainstream policy analysts need to emancipate themselves from relying on the positivist theories of IR and from the related ‘predict and act approach’⁵²⁰ that is based on the assumption that “the future can be predicted well enough to develop a static policy that will produce acceptable outcomes in most plausible future worlds.”⁵²¹ Such a ‘predict and act’ approach to studying the global governance limits their ability to help policymakers account for global change in the SD perspective, because in

⁵¹⁹ Baumgartner, 2001.

⁵²⁰ Marchau et al., 2010.

⁵²¹ Marchau et al., 2010, pp. 940.

sustainability perspective, global change represents a non-linear, opened process.⁵²² This means that the long-term trends, its impacts on governance for SD, and the related policy implications are inherently unpredictable. Even the degree of its uncertainty cannot be estimated.⁵²³ This means that when observing global change, policy analysts cannot know or the parties to a decision cannot agree upon (1) the appropriate models to describe interactions between actors involved in global governance, (2) the probability distributions to represent uncertainty about key parameters in the models of global governance, and/or (3) how to value the desirability of alternative outcomes of global governance. In short, policy analysts do not know that they do not know. This causes a large gap between the available knowledge and the knowledge policymakers would need so as to make quality policy choices in terms of adjusting governance for more SD.

The ‘deep uncertainty’⁵²⁴ of global change cannot be reduced by gathering more information.⁵²⁵ Under the conditions of deep uncertainty about the future global change, policy analysts cannot foresee how it will evolve. Instead, they should adopt certain modesty and open the future up, i.e., they should make a virtue out of uncertainty of global change. Instead of ‘defuturizing the future’,⁵²⁶ i.e., reducing the feeling of uncertainty of policymakers by increasing the security about it and by giving them a false comfort of certainty, policy analysts need to conceive the future as an opened horizon that can be creatively explored. So as to support policymakers to adapt governance for more SD, they should aid them to take the deep uncertainty into account and learn to cope with it. They should help them to respond to qualitative change over time, to detect the emerging issues and to find the necessary adaptive governance

⁵²² See chapters 2.3.4. and 3.1.

⁵²³ Drawing on Walker et al., in a broad sense, uncertainty is defined as missing knowledge, e.g., the absence of information (Walker et al., 2010, pp. 917). For a typology of different levels of uncertainty in policymaking see Walker et al., 2003.

⁵²⁴ Marchau et al., 2010.

⁵²⁵ Walker et al., 2010.

⁵²⁶ According to Polak ‘defuturising’ means “a retreat from constructive thinking about the future in order to dig oneself into the trenches of the present. It is a ruthless elimination of future-centered idealism by today-centered realism. We have lost the ability to see any further than the end of our collective noses. . . We are no longer willing or able to peer around the corner of the next century, or even to peer into the next decade, except when there is a question of dealing with millions of years and vast distances in space. The very size of such time dimensions renders them harmless and non-threatening to the present (1973, pp. 195).”

responses. In short, they have support them at building flexible governance for SD that is resilient to deep uncertainty of global change.

In order to help policymakers account for the non-linear, uncertain, complex and often chaotic nature of global change that causes continuous unpredicted emergence of new aspects and forms of global cooperation, mainstream policy analysts should depart from exploring it in conventional disciplinary patterns of reasoning and open themselves to new, integrative, multiple-scale, north-south sensitive, human and natural systems perspectives on global change. Only in this way, they will be able to help policymakers account for what Taleb⁵²⁷ calls ‘Black Swans’, i.e., events that lie outside the realm of the regular expectations (i.e., nothing in the past can convincingly point to its possibility), that carry an extreme impact, and that are explainable only after the fact (i.e., through retrospective, not prospective, predictability).⁵²⁸ In consequence, mainstream policy analysts need to continuously critically reflect the borders of their organisation of knowledge and search for solutions to their research dilemmas outside their disciplinary borders.

Furthermore, they need to emancipate themselves from their focus on the short-term future with some immediate policy in mind and from ‘minutiae futures thinking’,⁵²⁹ i.e., from their overriding concern for the present-focused decision-making. Instead, they should embrace the futures thinking on a grand, imaginative scale. Nevertheless, mainstream policy analysts need to stop searching for solutions to the present and the future policy problems in the past. In order to account for deeply uncertain nature of global change, they have to emancipate themselves from the attitude to solve policy problems by extrapolating common ways of problem solutions from the past and the present into the future. However, this is not to say that they cannot learn from evaluations of the past, but that they need to explicitly reflect and take into account the limited epistemological value of these lessons learned for tackling the deep uncertainty of global change.

⁵²⁷ Taleb, 2007.

⁵²⁸ Walker, 2010, pp. 918.

⁵²⁹ Slaughter, 2001.

5. Research Methodological Requirements of Policy Analysis for Governance for Sustainable Development

*The method is only as good as the one using it.
(Lamnek, 1995)*

Mainstream policy analysts lack the capacity to support policymakers at framing governance in the SD perspective because they struggle to encounter three central epistemological needs.⁵³⁰ First, they lack the ability to account for the discursive and pluralist nature of policies. Secondly, they exhibit limited capacity to account for the processes by which policymakers acquire knowledge. Nevertheless, they tend to disregard the deeply uncertain nature of global change. These epistemological needs represent blind spots in mainstream policy analysts' observations. They largely result from their reliance on the positivist theoretical approaches to policy analysis. However, how can policy analysts tackle these epistemological needs in the empirical research practice?

In order to answer this question, the chapter focuses on studying the research methodological dimension of policy analysis. Thereby, it analyses the applicative potential of the Foresight approach and of FRM for tackling the epistemological needs of policy analysis for governance for SD. On one hand, it explores how the existing research methodological approaches to policy analysis influence the ability of policy analysts to choose and use FRM in a way that allows them to tackle the above epistemological needs of policy analysis for governance for SD? On the other hand, the chapter examines how can policy analysts profit from the current EU Foresight discourse in order to improve their capacity to use the FRM in a way that is responsive to epistemological needs of policy analysis for governance for SD?

Part 1 of the chapter highlights the interpretivist⁵³¹ conception of 'research methodology' and of 'research method' that determines the inquiry in this chapter. *Part 2* critically reflects why the mainstream positivist methodological approach limits the

⁵³⁰ See Table 5.

⁵³¹ The terms 'interpretivist' and 'interpretative' are used as synonyms in the thesis.

capacity of policy analysts to use the FRM in a way that is sensitive to epistemological needs of policy analysis for governance for SD and why the current discourse on interpretative turn in policy analysis represents a promising reference to overcome these methodological dilemmas. *Part 3* systematically analyses how policy analysts can benefit from the contemporary EU Foresight discourse in order to tackle the research methodological requirements of policy analysis for governance for SD.

5.1. Relevance of Methodological Frame and Methods for Policy Analysis

The current policy analytical discourse is informed by different and often opposing understandings of methodological frame and research method, in particular in terms of their relevance for the applied policy research. This thesis relies on the interpretative notion of methodology and methods that importantly determine the focus of exploration of the uses of FRM for policy analysis for governance for SD.

5.1.1. Methodological Frame as Research Logic

Drawing on the interpretative conception of methodological frame, the thesis understands it as a coherent bundle of methodological assumptions, i.e., as consistent assumptions about the relevant conditions that need to be fulfilled in order to gain scientific insight in a certain area of interest.⁵³² Methodological assumptions are thus conceived as ‘methodological principles’ that deal with the question of choice and use of methods for applied policy research, and that represent distinct methodological solutions to the epistemological needs of researchers.⁵³³

⁵³² Lamnek, 1995; Schubert / Bandelow, 2003.

⁵³³ The thesis uses the term ‘methodological principle’, because it is commonly used by acknowledged scholars within the policy analytical discourse such as Hajer (2003) and Fischer (2003). However, within the German-speaking discourse on the qualitative and interpretative research, acknowledged scholars such as Bohnsack (2003) and Lamnek (1995a, 1995b) prefer to use the term ‘methodical principles’ (‘methodisches Prinzip’).

When referring to ‘methodological frame’ for policy analysis for SD, this thesis hence means the applied understanding (‘Anwendungsverständnis’⁵³⁴) of a distinct paradigm that informs policy analysts. Methodology stands for the research logic which corresponds with and derives from the implicit paradigm thinking of policy analysts and serves them as a reference frame for simplifying the complexity of social reality. It determines their research interest, their notion of the research object and their research direction and purpose. In short, methodology determines the central research habits of policy analysts and their notion of applicative potential of research methods for policy analysis.

The contemporary empirical policy analytical practice is informed by numerous different types of methodological frames, i.e., types of research logic. Thereby, scholars tend to distinguish two main types of research logic that in some variation inform policy analysts. First type of research logic is commonly referred to as ‘quantitative research logic’, as ‘empiricist research logic’, as ‘positivist research logic’ or as ‘rationalist research logic’. In order to avoid the heterogeneity of terms used for this type of research logic, the thesis applies exclusively the terms ‘quantitative’ or ‘positivist’ research logic.

The other type of research logic is largely referred to as ‘qualitative research logic’, as ‘interpretative approach’, as ‘interpretative methodology’ or as ‘postempiricist approach’. Again, for the reasons of analytical clarity, this thesis uses only the terms ‘qualitative’ or ‘interpretative’ research logic when referring to the second type of research logic.⁵³⁵ The research methodological principles common to these two research logics differ as presented in Table 6. This is not an exhaustive ideal-typical list of differences between the methodological conditions and factors that are considered to be decisive for gaining scientific insight by the two types of research logics. However, the list makes clear that while the quantitative research logic represents an applied

⁵³⁴ Schubert / Bandelow, 2003.

⁵³⁵ The analysis of the research discourse shows that acknowledged scholars tend to use the both term-pairs as synonyms that mean the same. The labels ‘quantitative’ and ‘empiricist’ research logic are often used as synonyms in contemporary methodological literature by acknowledged authors. Scholars also tend to use the labels ‘qualitative’ and ‘interpretative’ research logic interchangeably.

understanding of old paradigm thinking,⁵³⁶ the qualitative research logic represents the applied derivate of new paradigm thinking.⁵³⁷

Table 6: Comparative Typology of Quantitative and Qualitative Research Logics⁵³⁸

Quantitative / Empiricist Research Logic	Qualitative / Interpretative Research Logic
Explain	Understand / Emancipate
Nomothetic	Ideographic
Scrutinising Theory	Generating Theory
Deductive	Inductive
Objective	Subjective
Ahistoric	Historic
Closed	Opened
Predetermination of Researcher	Account for Researcher' System of Values
Distance	Identification
Static	Dynamic and Procedural
Particular	Holistic
Random Sample	Theoretical Testing
Data Near	Data Remote
Reductive Data Analysis	Explicative Data Analysis
High Measuring Level	Low Measuring Level

Depending on the tendency of constructivism representing the epistemological basis of the qualitative research logic, the qualitative research logic can be distinguished into the 're-constructivist' and the 'de-constructivist' research logic.⁵³⁹ While both versions of qualitative research logic focus on reading the text, they differ in the distinct methodological solutions and innovations that they offer in order to overcome the methodological dilemma of perspectivity of knowledge and to come in grips with the world as framed from the perspective of new paradigm thinking.⁵⁴⁰ On one hand, the re-constructivist methodology is informed by the assumption that although the reality is socially constructed, some objective reality exists that can be reinterpreted, i.e., reconstructed if it has been clouded by the pervasive regime of truth. The derivatives of

⁵³⁶ See Table 3.

⁵³⁷ See Table 3.

⁵³⁸ Adapted from Lamnek, 1995.

⁵³⁹ See Figure 8.

⁵⁴⁰ See Table 3.

the reconstructivist methodology, among others, comprise the ‘interpretative’, ‘hermeneutic’, ‘phenomenological’ and ‘cultural’ methodological approaches to policy analysis. On the other hand, the de-constructivist methodology is informed by the radical constructivist notion of inevitability of the socially constructed world. The deconstructivist approach to policy research, therefore, commonly focuses on deconstructing the observations, i.e., on uncovering the ‘regimes of truth’⁵⁴¹ that define the ways people see and speak (create) the world, and on providing new epistemological spaces for questioning and constructing alternative views on the reality. It includes derivatives such as the ‘argumentative’, ‘discursive’, ‘critical’, ‘poststructuralist’, or ‘postmodernist’ approaches to policy analysis.

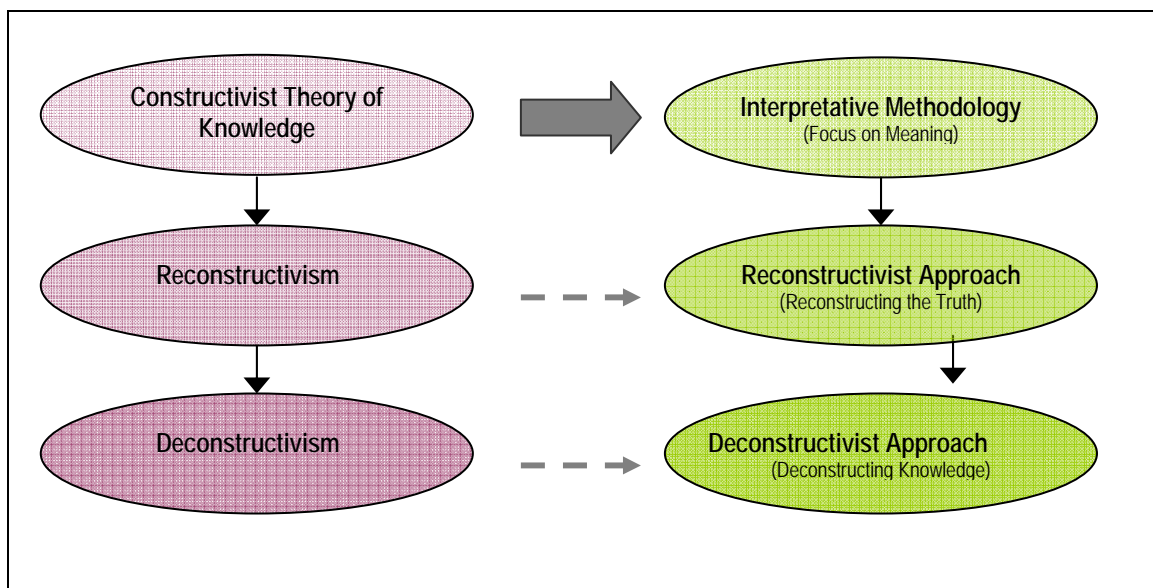


Figure 8: Heterogeneity of Interpretative Methodology

The interpretative understanding of methodological frame adopted in this thesis hence implies that policy analysts always – implicitly or explicitly – rely on a distinct methodological frame when conducting applied policy research. Methodological frame determines their notion of the relevant conditions for scientific insight about policies and thus informs their preference for and their way to use research methods and techniques for data collection and assessment, when conducting empirical policy research. Moreover, the interpretative understanding of methodological frame points

⁵⁴¹ Inayatullah, 1999.

toward the necessity for the reflected approach to choice and use of methods, i.e., for the approach that is responsive to the epistemological needs and ontological deliberations of researchers.⁵⁴² This means that the research inquiry as an interpretation process needs to be continuously critically reflected and methodically controlled in terms of its responsiveness to the philosophical, i.e., epistemological and ontological deliberations and needs of the researchers.

As such, the interpretative notion of methodological frame is critical toward the reflective approach to choice and use of research methods that is common to the positivist methodology. It, namely, rejects the research habit of policy analysts to solve the methodological dilemmas exclusively by reconstructing and refining methods that are being used within one methodological frame ('Verlauf') without questioning the adequateness of the methodological frame itself. The most recent example of such positivist approach represents the research design of the five-year LIAISE project of the EC that was launched in December 2009.⁵⁴³ So as to better link the Impact Assessment instruments to sustainability expertise, the project aims at elaborating a shared Impact Assessment toolbox, i.e., durable and flexible infrastructure providing improved tools for Impact Assessment that are accessible to policymakers and researchers on a dedicated web-platform. The focus of the project is hence put exclusively on improving the tools for Impact Assessment in order to bridge the existing gap between the research and the policy community in the field of Impact Assessment. The interpretative understanding of methodology challenges this belief that rigorous methods and methodical tool-boxes represent the best and only way to tackle governance for SD.

The interpretivist understanding of methodology has several implications for the exploration of the research methodological requirements of policy analysis for governance for SD in this thesis. First, it implies that when discussing the benefits of FRM for policy analysis for governance for SD, it is more about the application ('Handhabung') of the existing methodical instruments as it is about the maturity of the

⁵⁴² Drawing on Coghlan and Brannick (2005), this thesis distinguishes between reflective approach and reflected/reflexive approach to policy analysis that points towards the reflexivity of policy analysts, i.e., their "ability and willingness to acknowledge and take account of the many ways they themselves influence research findings and thus what comes to be accepted as knowledge (2005, pp. 6).

⁵⁴³ www.liaise-noe-eu/about.html.

single techniques for data collection and assessment. The focus shifts toward the individual capacities of policy analyst: “Er muss sich im Feld als feinfühlig, reaktionsschnell und der Situation gewachsen erweisen, und es liegt überwiegend in seiner Hand, ob sich die von ihm verwendete Methode als fruchtbar erweist. Diese Kompetenz lässt sich nicht einfach technizistisch erlernen. Es gibt also in der qualitativen Methodologie keine Verselbständigung des technischen Instrumentariums. Dessen fruchtbare Verwendung ist primär von der persönlichen Kompetenz des Forschers abhängig.”⁵⁴⁴

Secondly, policy analysts aiming to inform governance for SD need to continuously critically reflect the adequateness of their personal research approaches to choice and use of FRM for tackling the three epistemological needs encountered when conducting policy analysis for governance for SD:⁵⁴⁵ (1) the need to observe the discursive nature of policymaking in order to help policymakers account for the discursive nature of SD; (2) the need to account for the processes by which policymakers acquire knowledge in order to support them at sustainability mind-shift in the political thinking; (3) and the need to tackle the deeply uncertain nature of global change in order to help policymakers account for it in the SD perspective. Policy analysts should thereby not only question single FRM as this is common in the positivist policy analysis. In addition, they need to critically question their ways of choosing and using FRM for exercising policy analysis for governance for SD.

Nevertheless, based on their critical self-reflection, policy analysts need to set actions to overcome the discrepancy between methodology and their ontological deliberations in order to tackle the epistemological needs. Thereby, they not only need to continuously adapt and improve single FRM as this is typical for quantitative research, but also emancipate themselves from the inadequate research habits and adopt new ones that are more responsive to the newly emerged epistemological needs. They need to continuously adapt the research methodological frame that serves them as a reference point for their choice and use of FRM.

⁵⁴⁴ Lamnek, 1995, pp. 102.

⁵⁴⁵ See Table 5.

5.1.2. Research Method as Research Path

The thesis conceives research methods as research paths for collection, analysis, interpretation and dissemination of empirical data.⁵⁴⁶ Drawing on the interpretivist methodology, the thesis relies on the process-, context- and user-oriented understanding of research methods.⁵⁴⁷

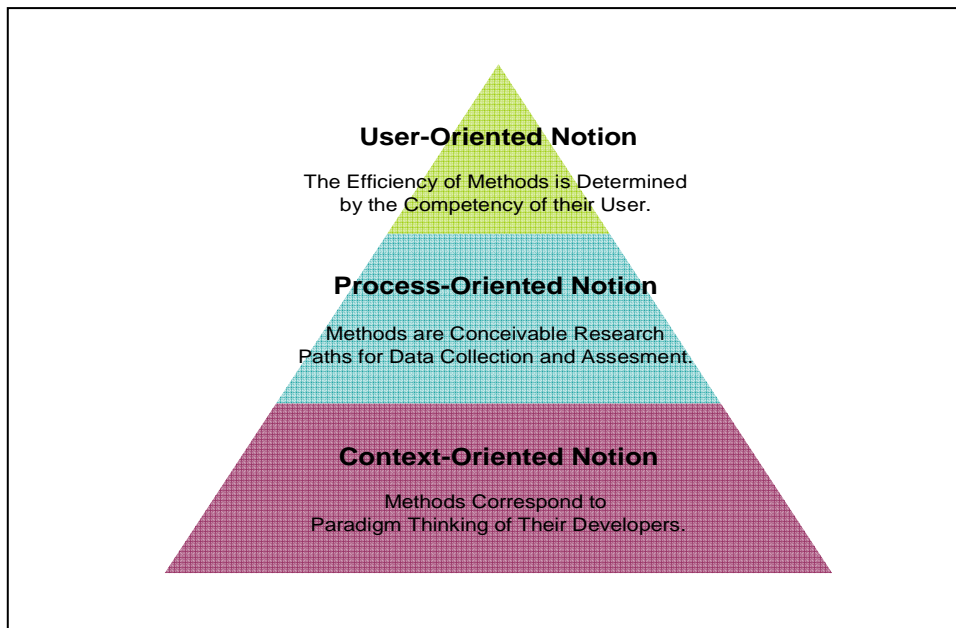


Figure 9: Interpretative Notion of Research Methods

The context-oriented conception of methods frames them as research paths that are designed by scholars according to their epistemological and methodological thinking, which is influenced by distinct paradigmatic thinking.⁵⁴⁸ The initial design of FRM thus largely corresponds with the distinctive paradigm thinking and the related epistemological and methodological deliberations which serve their developers as a reference point for simplifying and understanding the complexity of world. In this view, quantitative methods represent research paths which are informed by quantitative research logic. They are of primary epistemological value for the mainstream positivist

⁵⁴⁶ Lamnek, 1995; Behrens, 2003.

⁵⁴⁷ See Figure 9.

⁵⁴⁸ Lamnek, 1995.

policy analysis.⁵⁴⁹ This means that they primarily enable to fulfil the basic requirements or conditions for scientific insight that are advanced by the quantitative research logic. Since the positivist research logic is epistemologically coherent with the old paradigm view of social reality,⁵⁵⁰ this group of methods allows policy analysts to collect and to assess data about the empirical reality as framed in old paradigm thinking perspective.⁵⁵¹ For example, most of the methods that are referred to as ‘quantitative’ are developed on basis of the ‘mechanic view’⁵⁵² of the world that is insensitive to the observer as well as for the values and meanings behind the empirical observations. They hence represent research paths for studying the world in terms of the ‘first order reality’⁵⁵³ while disregarding the values and meanings informing these observations. They also represent means to measure the societal phenomena in terms of simple mono-causal relationships between distinct parts of social reality while neglecting the holistic and integrated view. Bell⁵⁵⁴ thus argues that quantitative FRM represent research paths that emphasise the logical structure of relation statements, use the language of mathematics via equations, aim at uncovering causality, emphasise empiricism and testability, objectivity and rationality, produce insights characterised by context independent applicability and build up of a body of cumulative verified knowledge. He conceives them as research paths that aspire to diminish the uncertainty of the future and to control it by elaboration of explanations that pinpoint it.

In contrast, qualitative methods represent research paths that are attributable to the qualitative research logic.⁵⁵⁵ They are epistemologically coherent with new paradigm thinking.⁵⁵⁶ They thus have a primary epistemological value for policy analysts who are informed by the qualitative research logic. They are well fitted to fulfil the conditions for gaining scientific insight as advanced by the qualitative research paradigm. For example, inherent to qualitative methods is the notion that a researcher knows more about the world by understanding how it is constructed and perceived by policymakers,

⁵⁴⁹ See Table 6.

⁵⁵⁰ See Table 3.

⁵⁵¹ See Table 3.

⁵⁵² Foerster, 1993.

⁵⁵³ Luhmann, 1984.

⁵⁵⁴ Bell, 2003a.

⁵⁵⁵ See Table 6.

⁵⁵⁶ See Table 3.

i.e., by understanding and studying the observer instead for the observed. Accordingly, qualitative methods primarily enable to study and observe the ‘second order reality’,⁵⁵⁷ i.e., the beliefs, opinions, meanings, narrations behind empirical observations. Thereby, they can be distinguished into methods for reconstructive and methods for deconstructive research that differ in the way that they come to grips with the perspectivity of knowledge about the social reality.⁵⁵⁸ Some qualitative FRM such as Causal Layered Analysis (CLA) include the aspects of both – the re- and deconstructive research logic.⁵⁵⁹

The process-oriented notion of research methods implies that methods represent highly heterogeneous and context-dependent processes, which cannot be methodologically canonised.⁵⁶⁰ In consequence, the research paths cannot be clearly delineated from each other. This thesis uses the term ‘techniques’ when referring to deviations or/and specifications of the method and to the sum of different research steps necessary to follow a distinct research path.

Nevertheless, a user-oriented understanding of research methods suggests that the efficiency of methods is largely determined by the competences and the mind-set of the practitioner using them. As a result, the method cannot be discussed as an entity that is de-privatised from the person who uses it. As Lamnek states, “the method is only as good as the one using it.”⁵⁶¹ Therefore, no method has a monopoly on producing good - or bad - work. (...) A sharp tool in the hands of inept researchers may produce less useful results than a blunt tool in the hands of skilled and sensitive researchers.”⁵⁶² In this sense, research methods represent only ‘Einstiegshilfen’⁵⁶³ into the inquiry process. However, they do not guarantee scientifically reliable interpretations. The quality of scientific insights can be guaranteed only by the competence of policy analysts to use research methods.

⁵⁵⁷ Luhmann, 1984.

⁵⁵⁸ See Figure 8.

⁵⁵⁹ Inayatullah, 2001a; Inayatullah, 2002a; Inayatullah, 2003. For more on CLA see chapters 6.3.3. and 6.3.6.

⁵⁶⁰ Lamnek, 1995.

⁵⁶¹ Lamnek, 1995, pp. 1.

⁵⁶² Bell, 2003a, pp. 241.

⁵⁶³ Lamnek, 1995.

Such context-, process-, and user-oriented understanding of research methods clearly opposes the positivist notion of methods as homogenous monolithic entities and as neutral instruments, which enable to uncover the absolute truth. It represents a counterpart to the positivist understanding of research methods as static, highly codified research paths for data collection and assessment that may be applied according to fixed, context independent application rules.⁵⁶⁴ It also differs from positivist belief that methods by themselves and not the practitioners using them determine the quality of the empirical research, and that an increase of the inherent efficiency of methods automatically and always means an increase in the quality of research.

The interpretative understanding of research methods has several implications for the discussion of the uses of FRM in policy analysis for governance for SD. First, it suggests that the distinct research logic adopted by policy analysts importantly influences their *preference* for a certain FRM over the other, i.e., their choice of FRM for policy research. Consequently, the reliance of policy analysts on a particular methodological frame, which typically corresponds with their paradigmatic thinking, leads to their preference for a particular FRM. This preference is typically determined by the level of coherence between FRM and the research methodological logic of policy analysts. For example, policy analysts who rely on the quantitative research logic assess the applicative potential of research methods for the policy research differently than their colleagues who rely on the qualitative research logic.⁵⁶⁵ Within the qualitative methodological frame, quantitative FRM have a rather secondary function for exploring social reality, because their epistemological value is largely limited to determination of (non-) existence of certain assumed causal correlations. In contrast, qualitative FRM have a primary function when used within the qualitative methodological frame, for they were developed to (further) explore the quality of correlations between distinct social phenomena.

The above process-, context and user-oriented understanding of research methods moreover implies that the distinct research logic adopted by policy analysts determines

⁵⁶⁴ Bohnsack, 2003.

⁵⁶⁵ Lamnek, 1995.

and guides their *use* of FRM in empirical policy analysis. As a result, all FRM – qualitative or quantitative – can be used in different ways, i.e., according to quantitative or qualitative research logic. Depending on the type of research logic, FRM will simply be used differently. For example, within the qualitative research logic, quantitative FRM are used to collect and produce the numerical and quantified data to analyse the quality of phenomena. However, they only have a secondary status and low epistemological value in interpretative phase of applied research, as they allow only for (quantified) statements about existence and intensity of social phenomena explored, and offer limited insight about the quality of the existence of phenomena (e.g., about the conditions for existence of phenomena). In contrast, qualitative FRM can be used in quantitative way as well. This is for example the case when interviews as qualitative methods are conducted merely to confirm or falsify the predetermined hypotheses about the first order reality.⁵⁶⁶

Nevertheless, the interpretative understanding of research methods adopted in this thesis implies that the applicative potential of FRM in policy analysis for governance for SD primarily depends on the capacity of policy analysts to choose and use them in a way that will enable them to perceive social reality through their distinct paradigmatic glasses. In particular, the quality of choice and use of FRM depends from the level of their coherency with the experts' assumptions about the nature of reality (ontology) and the nature of knowledge (epistemology), in addition to their methodological assumptions about the appropriate FRM and about the ways to use them in order to explore social reality. For example, when policy analysts see the world as a linear machine, then the methods of primary importance are the quantitative FRM that allow them to reduce the world on linear causalities and grasp it as a linear machine.⁵⁶⁷ When policy analysts see the world as a non-linear machine, then the qualitative FRM aimed at tackling and embracing the complexities and uncertainty have the primary importance for their research. However, policy analysts may use any type of FRM in any type of way in policy analysis for governance for SD as long as they are conscious of their limited epistemological value within their distinct methodological frame.

⁵⁶⁶ Luhmann, 1984.

⁵⁶⁷ Von Foerster, 1993.

5.2. Methodological Approaches in Policy Analysis

The capacity of policy analysts to tackle the epistemological needs of policy analysis for governance for SD largely depends from their capacity to adopt reflected approach to choice and use of FRM. However, mainstream policy analysts often feel overwhelmed with this task, as it places unique socio-psychological demands on them. In order to adopt a reflected approach to choice and use of FRM, policy analysts first have to emancipate from the dominant positivist quantitative research logic informing their empirical research, because it prevents them to be aware of and question their own research methodological approach to policy analysis, and to adapt it in a way that would make their choice and use of FRM sensitive to the newly emerged epistemological needs. However, policy analysts can importantly profit from the current EU discourse on the need for interpretative turn in policy analysis so as to better tackle the reflected approach to choice and use of FRM in policy analysis for governance for SD.

5.2.1. Shortcomings of the Mainstream Positivist Methodology

The existing research habits of mainstream policy analysts are largely informed by the positivist methodology that severely restricts their capacity to adopt a reflected approach to choice and use of FRM. The content analysis of policy analysis education programmes shows that policy analysts are taught to use rigorous methodological packages of methods commonly referred to as the ‘toolbox’. These toolboxes are informed by the dominating positivist paradigm thinking and are usually presented to the students as the right and the best research paths for collecting, analysing and interpreting empirical data. Armed mainly with the positivist research designs and statistical methods, numberless policy analysis students hence have little or no training in understanding the normative and interpretative foundations of research methods that they have learned to rely upon, or in studying the social setting to which these techniques are to be applied.⁵⁶⁸ Such monoparadigmatic education in positivist methodology for policy research advances the uncritical and unreflected attitude of

⁵⁶⁸ Fischer, 2003b.

policy analysts towards their choice and use of research methods in empirical practice.⁵⁶⁹

Moreover, mainstream policy analysts following the positivist research logics tend to assume that methods and methodology mean the same thing. As a result, they largely fail to distinguish between the methods as research paths and the methodology as research logic that guides their choice and use of methods for empirical research. Consequently, they use both terms interchangeably. They talk about methodology, when single methods and techniques are meant and vice-versa. This failure of policy analysts to distinguish between methods and methodology typically causes general absence of scepticism toward their own research logic. It can also result in the lacking ability of policy analysts to – at least rhetorically and explicitly - consider the use and choice of FRM for policy analysis for governance for SD in a self-reflexive way.

Furthermore, the positivist research logic common to mainstream policy analysts suggests that the qualitative research logic is less scientific than the quantitative research logic. Therefore, mainstream policy analysts tend to understand the alternative qualitative research logic in a very negative and restricted way. Their understanding of the qualitative research logic is typically reduced to the following elements: a very small number of persons, no real sample studies on the coincidence principle, no metric variables and no statistical analyses.⁵⁷⁰ Such highly restricted understanding of qualitative methodology and methods can lead to a negative attitude and deep aversion of policy analysts toward the adoption of qualitative research logic and toward the use of qualitative FRM in policy analysis. It fuels their determinist and unreflected reliance on quantitative research logic and quantitative FRM as the only right approach ('Meßfetischismus',⁵⁷¹).

Moreover, mainstream policy analysts informed by the positivist research logic typically assume that the choice and use of methods is perspective independent. They exhibit the tendency to apply the once learned methods always in the same way when

⁵⁶⁹ See Table 10.

⁵⁷⁰ Lamnek, 1995a.

⁵⁷¹ Lamnek, 1995a.

exploring different kind of issues. They believe that they can reduce and even eliminate the influence of methods and of their own research logics on the outcomes of their inquiries by standardising and fixing the research design. Their methodical apparatus is detached from the research object. Policy analysts subvert the reality to be explored to research methods learnt. Methods and not the research object being observed determine what they observe.

Mainstream policy analysts following positivist approach also tend to disregard that the conceptual shifts in thinking social reality severely challenge their research logic. Whereas they acknowledge that they continuously undergo conceptual shifts,⁵⁷² i.e., that their framing of social reality and knowledge continuously changes, and that they should adapt and enhance their perspectives on relevant parts of social reality in interaction with ever-changing society and environment, they at the same time tend to pay little attention on how these mind-shifts in thinking social reality challenge their research habits and logic, including the way they choose and use FRM. Mainstream policy analysts hence fail to revise the standard research logic in relation to accelerating number and pace of conceptual and substantive shifts such as the sustainability shift. For example, while claiming that interdependencies between the social, economic and environmental factors are complex and thus cannot be examined by causality nor measured, mainstream policy analysts often continue to use the statistical methods such as the environmental sustainability index⁵⁷³ and to communicate the outcomes as facts and absolute truths. While acknowledging the complex nature of global change, they continue to use costs and benefits analysis with the aim to quantify the relationships.⁵⁷⁴

To sum up, the positivist methodology is highly insensitive to meanings, beliefs and values behind the FRM, the uses and the choice of FRM and behind the empirical data. Policy analysts, therefore, often tend to design policy analysis as a technocratic and rigorous research practice that eliminates the interpretative nature of knowledge and

⁵⁷² Hajer, 1993.

⁵⁷³ Environmental sustainability index was published between 1999 to 2005 by Yale University's Center for Environmental Law and Policy in collaboration with Columbia University's Center for International Earth Science Information Network and represents a composite index tracking 21 elements for measuring the state of the environmental sustainability of society. For more see Yale University / Columbia University, 2005.

⁵⁷⁴ Morgan et al., 1991.

removes values and languages from the truth of positions. They commonly adopt unreflected approach to choice and use of methods for policy analysis that limits their capacity to adapt their research habits in response to the epistemological needs. Policy analysts thus need to emancipate themselves from the positivist methodology in order to meet the epistemological needs of policy analysis for governance for SD.

5.2.2. Interpretative Methodology as a Vehicle of Sustainability Turn

The interpretative methodology represents a promising reference frame for policy analysts aiming to critically reflect their own research logic and habits behind the choice and use of FRM and to overcome the methodological dilemmas due to their positivist research logic when conducting policy analysis for governance for SD. The interpretative methodology⁵⁷⁵ acknowledges that all social reality is a product of interpretation. It claims that interpretation work in research process is inevitable ('Problem der Unhintergebarkeit von Interpretationsarbeit im Forschungsprozess'⁵⁷⁶). In consequence, interpretative methodology takes the perspectivity of knowledge seriously. It underscores "the extent to which methodological choices, rather than being a disembodied repertoire of tools and techniques, are grounded in a particular set of epistemological and ontological presuppositions."⁵⁷⁷ In this sense, it claims that "a certain conception of the way scientific method should proceed, and its grounding in beliefs about epistemology, almost inevitably lead to a certain conception of society, and understanding of how society should be organized and managed."⁵⁷⁸

Although the quantitative research logic widely dominates the conduct of the institutionalised mainstream policy analysis, mainstream policy analysts increasingly advocate the need for interpretative turn.⁵⁷⁹ In particular, the conceptual shift from top-down 'governing' concept to a looser 'governance' framework revived the discussion

⁵⁷⁵ For more on understanding of methodology in this thesis see chapters 5.1. and 3.2.2.

⁵⁷⁶ Keller, 2001.

⁵⁷⁷ Yanow, 2003, pp. 228.

⁵⁷⁸ Yanow, 2003, pp. 228.

⁵⁷⁹ Hajer / Wagenaar, 2003; Fischer, 2003a. The interpretative turn is also commonly referred to as 'argumentative turn' (e.g., Fischer / Forester, 1993) or as 'post-positivist revolution'.

on the need for qualitative, i.e., interpretative research logic in policy analysis.⁵⁸⁰ Numerous acknowledged scholars, including Hajer and Wagenaar,⁵⁸¹ Fischer and Forester,⁵⁸² Gottweis,⁵⁸³ Finlayson,⁵⁸⁴ Yanow and Schwartz-Shea⁵⁸⁵ argue that this conceptual shift to governance framework could mean that the time for interpretative methodology may well have arrived.

The interpretative policy analysis is primarily concerned with analysis of meaning and symbolism in policy-related interaction. It strives for “enhanced appreciation of the variety of meanings within the policy process, the multiple ‘realities’ that people brought to the situation, and the ways in which power was systematically facilitating the representation of some insights at the cost of others.”⁵⁸⁶ Wagenaar thereby divides interpretative policy analysis into several sub-research fields that differ in the way they study policy interactions. They include analysis of ‘frames’ (Schön, Rein, Laws), ‘stories’ (Thorgmorton, Roe, Wagenaar, Van Eeten), ‘plots’ (Kaplan), ‘discourses’ (Gottweis, Hayer, Keller) and of ‘mise en-scene’ of policymaking (Yanow, Homart and Hajer).⁵⁸⁷

Policy analysts aiming to adopt reflected approach to use and choice of FRM for exercising policy analysis for governance for SD can profit significantly from the interpretative policy analytical discourse. On one hand, the discourse offers an extensive body of work containing the methodological critique of the mainstream positivist methodological approach to policy analysis, systematically spelling out its limitations.⁵⁸⁸ In particular, the literature addresses questions such as: “Could the strength of a policy proposal be judged merely in terms of a quantified assessment of costs and benefits? How do such approaches account for the role played by values that people adhere to? Aren’t values important for understanding why some parties disagree

⁵⁸⁰ Finlayson, 2004b.

⁵⁸¹ Hajer / Wagenaar, 2003.

⁵⁸² Fischer / Forester, 1993; Fischer, 2003a; 2003b.

⁵⁸³ Gottweis, 2003a; 2003b.

⁵⁸⁴ Finlayson, 2004a; 2004b.

⁵⁸⁵ Yanow / Schwartz-Shea, 2006; Yanow, 1993; 2000; 2003; 2006; 2007

⁵⁸⁶ Wagenaar, 2003b.

⁵⁸⁷ Wagenaar, 2003b.

⁵⁸⁸ Dryzek, 1989; 1990; 2006; Stone, 1988; Majone, 1993; Fischer, 1989; 1993; 2003a; 2003b; Fischer / Forester, 1993; Héritier, 1993a; 1993b; Windhoff-Héritier, 1987.

with others? To what extent were policymakers sometimes unwittingly ‘taken away’ by their own myths, mistaking a compelling perspective for widely shared and unproblematic truth?”⁵⁸⁹

On the other hand, the interpretative policy analysis discourse proposes a range of innovative methodological solutions in order to tackle the epistemological needs and methodological dilemmas due to conceptual and paradigm shifts⁵⁹⁰ in thinking policymaking such as for example the sustainability shift and the shift toward the framework of governance. In particular, the discourse on deliberative policy analysis, which connects policy analysis to the issue of deliberative democracy,⁵⁹¹ has the potential to positively influence the receptivity of mainstream policy analysts for potential of interpretative methodology to serve as reference frame for reflected choice and use of FRM in policy analysis for governance for SD. It proposes several methodological solutions for coming into grips with challenges related to the conceptual shift toward thinking policymaking in terms of governance, including the challenge to account for new spaces of politics, to explore policymaking under conditions of radical uncertainty, to account for increased importance of ‘difference’ for our understanding of politics, and to tackle the interdependence and the increased dynamics of trust and identity in policymaking.⁵⁹² These solutions, among others, include methodological derivatives such as discourse analysis, grounded theory, ‘multiple’ methodological inquiry and design science.⁵⁹³

The current scientific discourse on the need for interpretative turn in policy analysis has a positive effect on the sensitivity of mainstream policy analysts for the relevance of reflected approach to choice and use of research methods in policy analysis. However, the interpretative research methodology still does not have a secure footing in the empirical practice. Furthermore, the current discourse on interpretative turn in policy analysis also remains largely insensitive toward the applicative potential of FRM as

⁵⁸⁹ Wagenaar, 2003b.

⁵⁹⁰ According to Kuhn (1962) a paradigm shift takes place, when a scientist's world is qualitatively transformed and quantitatively enriched by fundamental novelties of either fact or theory. See chapter 3.2.2.

⁵⁹¹ Hajer / Wagenaar, 2003. For an exhaustive discussion on ‘deliberative democracy’ see Lösch, 2005.

⁵⁹² Hajer / Waagenaar, 2003.

⁵⁹³ Héritier, 1993.

methodical solutions for policy research, because the reflections of interpretative approach to conduct of policy analysis largely focus on the classical social sciences methods and their applicative potentials for policy analysis.

5.2.3. Uses of the Foresight Approach and Futures Research Methods in Policy Analysis

The current increased interest of policy analysts into using FRM is not new. It in a way represents a return to the roots of the policy sciences, the Harold Lasswell's plead in the late 50ties for a "new futures orientation in political science."⁵⁹⁴ Bell is one of few scholars who explicitly discuss in historical perspective the link between futures field⁵⁹⁵ and policy analysis that today represent two separate research fields. He points out that at the very beginning of policy analytical research in late 30ties, Lasswell as one of the co-founders of policy analysis highlights that the "decision making was inevitably future-oriented. Deciding how to act for example inventing and choosing among policy alternatives, involves a process of constructing images of alternative futures and selecting among them."⁵⁹⁶ In Lasswell's view, "making decisions intelligently means having expectations about the future consequences of present developments and of taking or not taking certain actions."⁵⁹⁷

Whilst being aware of the uncertainty of the future, Lasswell⁵⁹⁸ argues that deliberate decision making is inconceivable without having beliefs about at least some of various alternative present possibilities for the future. In his view, knowledge and prediction as means for construction of alternative images of the future are not enough to design and implement intelligent human action. Laswell highlights that decision making and policymaking involves having goals and making value judgements, which need to be accounted for when thinking about futures. He assumes that "people would act, according to their cognitive maps of reality, also as to achieve their goals and fulfil their

⁵⁹⁴ Lasswell, 1951, pp. 5.

⁵⁹⁵ Slaughter, 2001a.

⁵⁹⁶ Bell, 2003a, pp. 51.

⁵⁹⁷ Bell, 2003a, pp. 52.

⁵⁹⁸ Lasswell, 1951.

values, avoiding their feared futures as much as possible given the constraining conditions.”⁵⁹⁹

Bell⁶⁰⁰ argues that Lasswell since the late 1930ties struggled to create and establish what is now known as futures field. Lasswell developed several methods and methodologies for futures thinking in policy analysis such as for example the developmental analysis. He also included ‘anticipations of the future’ as an aspect of one of the two generally perceived purposes of policy sciences: the effort to contribute to decision process by creating relevant information and interpretations to specific policy issues. According to Bell, he later on merged his work on futures thinking with his efforts to invent policy sciences while neglecting his visions for a separate futures field because his endeavours remained widely unnoticed by his colleagues.⁶⁰¹

Building on the legacy of Lasswell’s endeavours, numerous scholars continued to discuss and recognise the relevance and uses of FRM and of explicit systematic futures thinking for policy analysis. In fact, this debate represents a core of an ongoing dispute on the status of the futures field as a distinct discipline as opposed to being a part of political or policy sciences. Bell points out that until 1970, scholars recognised a considerable overlap between the policy sciences and the research based on FRM.⁶⁰² In the late 70ties, the leading futurists Kahn and Wiener for example argued that policy research has not only to do with anticipating future events and making them as desirable as possible, but also with preparing policymakers to deal with whatever future actually arises, by considering a range of alternative futures.⁶⁰³ At the appearance of the initial issue of the journal ‘Policy Science’ in the 1970ties, six of twenty-one people listed as editors or advisers were prominent futurists.⁶⁰⁴

However, by the 1990, the futures field comprising areas of futures activity such as Foresight, Futuring, Futures Studies, Futures Research and the policy analysis have

⁵⁹⁹ Bell, 2003a, pp. 51

⁶⁰⁰ Bell, 2003a.

⁶⁰¹ Bell, 2003a.

⁶⁰² Bell, 2003a.

⁶⁰³ Bell, 2003a.

⁶⁰⁴ Bell, 2003a.

grown apart. Policy analysis in the EU today represents a full-fledged heterogeneous professional activity that is practiced across many domains, ranging from social sciences such as economics and political science.⁶⁰⁵ In the EU futures field, Foresight, i.e., systematic, participatory, future intelligence gathering and medium-to-long term vision-building process aimed at present-day decisions and mobilising joined actions,⁶⁰⁶ gradually evolved to a dominating area of futures activity that is dispersed across a wide range of scientific disciplines and domains.⁶⁰⁷

In the past decade, the interest into blending both research fields increased. On one hand, policy analysts increasingly consider the ability to integrate Foresight approach and FRM into policy analysis and the capacity to develop a new future-oriented culture as one of the key challenges for policy analysts in the future because policymaking in any sector is future-oriented and most of the public intervention relates to the future perspective.⁶⁰⁸ On the other hand, the EU Foresight discourse aims to establish political science and in particular policy analysis as the disciplinary background of Foresight. The launching of the “International Journal of Foresight and Innovation Policy” in 2004 represents one of many symptoms of this trend. The Journal attempts to put special emphasis on the use (actual or potential) of FRM for policy analysis: “The explicit disciplinary background for the discussion of the use of FRM in the Journal represent the domains of policy and management sciences and research following the utilisation of knowledge in decision-making processes including recent insights in the domain of knowledge management.”⁶⁰⁹

Thereby, the Foresight practitioners rely on what often appears as a jungle of diverse and conflicting FRM. When asked to define FRM, scholars at the conferences and in publications usually point out a range of FRM. For example, one of the largest worldwide handbooks of FRM provides the following list of FRM commonly used in the futures field: “Agent Modeling, Causal Layered Analysis, Cross-Impact Analysis, Decision Modeling, Delphi Techniques, Econometrics and Statistical Modeling,

⁶⁰⁵ See chapter 4.1.

⁶⁰⁶ Malta Council for Science and Technology, 2001.

⁶⁰⁷ Interview with Loikkanen, 2007; Interview with De Fonseca, 2007; Interview with Da Costa, 2004.

⁶⁰⁸ Interview with Havas, 2007; Interview with Loikkanen, 2007; Interview with Mannermaa, 2004.

⁶⁰⁹ Interview with Havas, 2007.

Environmental Scanning, Field Anomaly Relaxation, Futures Wheel, Genius Forecasting, Vision, and Intuition, Interactive Scenarios, Multiple Perspective, Participatory Methods, Relevance Trees and Morphological Analysis, Road Mapping, Robust Decision Making, Scenarios, Simulation-Gaming, State of the Future Index, Structural Analysis, Systems Modeling, Technological Sequence Analysis, Text Mining, Trend Impact Analysis.”⁶¹⁰ However, these lists of FRM exhibit severe incoherencies in terms of classifying methods as FRM. For only few methods in these lists can be discussed as ‘primarily FRM’⁶¹¹, i.e., as methods that have the legitimate claim to being FRM.⁶¹² A large part of these lists represent standard methods that were developed in other disciplines, but that could also be used within the futures research field.

In face of the increased interest of policy analysts into Foresight, this chapter in continuation systematically explores how policy analysts can profit from the contemporary EU Foresight discourse when aiming to adopt a Foresight approach and use FRM so as to tackle the epistemological needs of policy analysis for governance for SD.⁶¹³ So as to prevent further confusion, the chapter also examines, what are the commonly perceived central features of the highly heterogeneous and diverse FRM and how are they distinguished from other standard methods used in the policy research.

5.3. European Foresight Discourse on Futures Research Methods

The EU Foresight discourse is dispersed across a wide range of domains, sectors and scientific disciplines. Foresight thus appears as a jungle of diverse and conflicting modes of research, full of inconsistent terminologies, diverse intellectual styles and sometimes incommensurable paradigms. In order to outline how the EU Foresight discourse can inform the systematic and up-to-date discussion of the ways to reintroduce FRM to policy analysis for governance for SD, this chapter analyses it along three tracks: (1) the ‘know-what’ discourse evolving around purposes and issues

⁶¹⁰ Gordon / Glen, 2003.

⁶¹¹ Bell, 2003a.

⁶¹² Bell, 2003a.

⁶¹³ See Table 5.

of Foresight, (2) the ‘know-how’ discourse on research methods and tool-boxes for exercising Foresight, and (3) the ‘knowing-in-action’ discourse on Foresight as a social practice that is conducted by practitioners with highly different backgrounds and experience.⁶¹⁴

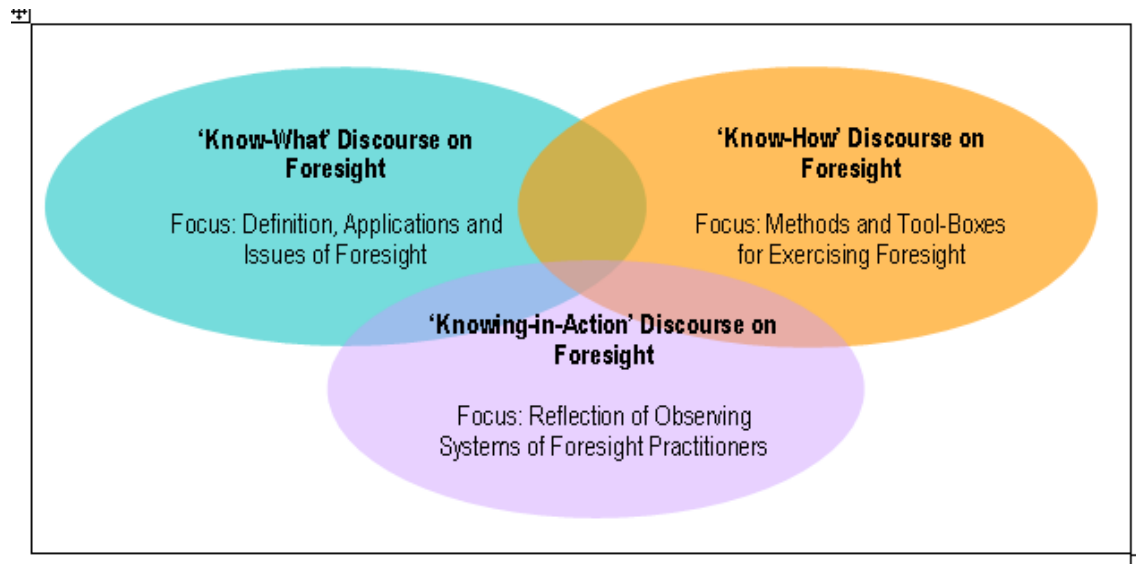


Figure 10: Tracks of the European Foresight Discourse

5.3.1. Foresight as a Core Area of Activity in the Futures Field

The ‘know-what’ discourse on Foresight points towards numberless understandings and definitions of what Foresight is. Common to most of the definitions of Foresight in the EU is the claim that Foresight activities produce knowledge in relation to a future time. Foresight is thus understood as “the ability to create and maintain a high-quality, coherent, and functional forward view.”⁶¹⁵ Moreover, the definitions typically point toward the following three central analytical features of Foresight: its opened, participatory and decision-oriented nature.⁶¹⁶ Foresight commonly speaks from the epistemological position that “the coexistence of different expectations about the futures states and paths points up the contingency of transformation processes and prevents

⁶¹⁴ See Figure 10.

⁶¹⁵ <http://costa22.org/mou.php>

⁶¹⁶ See Figure 11.

actors from getting locked in strategies which are based on deterministic assumptions about development trends that are taken for granted.”⁶¹⁷

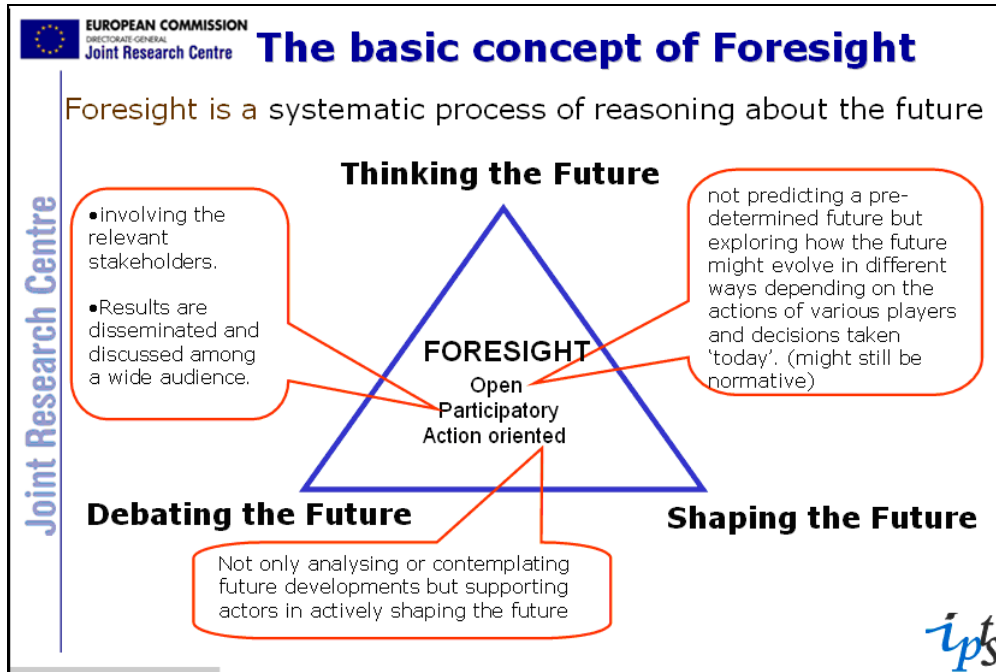


Figure 11: Basic Concept of Foresight⁶¹⁸ in the European Union

However, the boundaries between Foresight and numerous other areas of activity in the futures field are fuzzy, not only at the rhetoric, but also at the epistemological and methodological level. For example, Foresight is at times conceived as a form of Futures Studies.⁶¹⁹ Foresight is also often used as a synonym or as a generic or umbrella term for the futures research. Moreover, in the actual practice, Foresight exercises frequently include elements of Forecasting or prediction, thereby ignoring the general consensus about the rather interpretivist or constructivist epistemological position of Foresight.⁶²⁰ At times the term Foresight is also misused as a label for any type of policy research that relies on FRM. Furthermore, the understanding of Foresight in the EU differs highly from the understanding in the US. While the US-based scholars tend to understand Foresight as one of the basic skills and human capacities that “protect us

⁶¹⁷ Voss et al., 2004, pp. 13.

⁶¹⁸ Da Costa et al., 2006.

⁶¹⁹ http://forlearn.jrc.ec.europa.eu/guide/A1_key-terms/futures-study.htm

⁶²⁰ For more on social constructivist perspective in and on Foresight see Fuller and deSmedt (2008); Fuller and Loigma (2007) and Joergensen and Grosu (2008).

from making certain kinds of errors and suffering the consequences”⁶²¹, in the EU, Foresight represents a label for a central activity area in the futures field.

For reasons of analytical clarity, this thesis draws on the EU definition of Foresight. Therefore, it clearly distinguishes Foresight from other areas of activity in the EU futures field. In the EU, Foresight is typically clearly distinguished from ‘Forecasting’, a policy research activity that is informed by the second generation ‘predict-and-act’ futures thinking. Miles et al.⁶²² for example argue that Foresight is about shaping future and not predicting it. Voß et al. add that it “differs from forecasting by recognising the impossibility to predict the dynamics of complex systems.”⁶²³ As a result, Foresight practitioners acknowledge the openness of the future as “a constitutive element which substantiates its malleability and aptness towards strategy.”⁶²⁴ Borup, therefore, argues that “Foresight is not a process of forecasting the future but rather an attempt to explore the space for human actions and interventions to shape the future. Foresight is aimed at producing orientations rather than predictions.”⁶²⁵

In the EU discourse, Foresight is also commonly distinguished from ‘Futuring’,⁶²⁶ a policy research field that attempts to predict the future by applying the rules of the past. The futurists aim at developing “‘future scenarios’ in which qualities remain the same, only the quantities change: more cars, wider highways, faster planes, bigger bombs, etc.”⁶²⁷ Nevertheless, Foresight is commonly distinguished from the ‘prospective studies’ that were introduced by the French scholar De Jovenel and that are commonly practiced in France and Francophone Africa.⁶²⁸ While Foresight exercises share a general interest in all types of futures, the prospective studies represent studies “of the future to develop a strategic attitude of the mind with a long-range view of creating a desirable future.”⁶²⁹

⁶²¹ Slaughter, 2001a.

⁶²² Miles et al., 2002, pp. 2.

⁶²³ Voss et al., 2004, pp. 12.

⁶²⁴ Voss et al., 2004, pp. 12.

⁶²⁵ Borup, 2003, pp. 3, cit. in: Voss, 2004 pp. 12.

⁶²⁶ Cornish, 2004.

⁶²⁷ Von Foerster, 1979a, pp. 5.

⁶²⁸ Glenn, 2003a.

⁶²⁹ Glenn, 2003a, pp. 6.

However, Foresight is typically positioned near to the Futures Research⁶³⁰ field, an empirical approach to policy research relying on FRM that is typically followed by the US-based policy researchers. Futures Research is defined as “the use of [futures research] methods to identify systematically the consequences of policy options and to identify alternative futures with policy implications for policymakers.”⁶³¹ Futures Research as a decision-oriented approach seeks to “identify and describe current forces that should be understood in order to make more intelligent decisions.”⁶³² According to Slaughter, here the emphasis is on “forecasting, planning and exploring futures using analytic and quantitative methods.”⁶³³

Foresight also tends to be discussed as an applied form of the ‘Futures Studies’, a largely US-based strand of research in which FRM are used for more general academic research.⁶³⁴ Both, Foresight and Futures Studies are informed by the third generation futures thinking.⁶³⁵ They are understood as opened approaches to research in terms of envisioning alternative futures, “not predicting a pre-determined future but exploring how the future might evolve in different ways depending on the actions of various players and decisions taken.”⁶³⁶ However, Futures Studies are commonly conceived as “any exploration of what might happen and what we might want to become.”⁶³⁷ They are seen as more broadly and rigorously processed, following the goal to understand the issues as completely as possible.⁶³⁸ According to Slaughter, “they are concerned with understanding the futures field as a whole, developing overviews of its work and communicating these to, and with, other constituencies and groups.”⁶³⁹ In contrast, Foresight is typically defined as an action-oriented type of research that not only analyses or contemplates futures development, but also supports actions in actively

⁶³⁰ See Slaughter, 1993.

⁶³¹ Glenn, 2003a, pp. 6.

⁶³² Glenn, 2003a, pp. 8.

⁶³³ Slaughter, 2001a, pp.5.

⁶³⁴ For exhaustive discussion of the Futures Studies field see Masini, 1989; 1993; Slaughter, 1993.

⁶³⁵ See chapters 5.5.2. and 6.1.3.

⁶³⁶ Da Costa et al., 2006.

⁶³⁷ Glenn, 2003a, pp. 6.

⁶³⁸ Glenn, 2003a.

⁶³⁹ Slaughter, 2001a.

shaping the future.⁶⁴⁰ Its goal is to develop policymakers' capabilities to relate current decisions to long-term prospects.

5.3.2. Issues and Applications of Foresight

The 'know-what' discourse on Foresight identifies a wide range of applications and issues of Foresight exercises. Foresight is, among others, considered to be a promising approach to detect adverse conditions, guide policy, shape and develop a strategy, explore new markets, products and services, raise the general public' awareness of developments that are likely to influence societies future, as well as to identify opportunities and areas of vulnerability in complex strategic issues. Foresight is also increasingly used to inform the policy processes aimed at bringing the society on the tracks of SD and to inform the governance within complex systems.⁶⁴¹

For example, according to the 2005 EFMN Issues Analysis Report,⁶⁴² the issue 'Sustainability and Protection of Environment' features as the fifth most prominent issue in the Foresight exercises conducted between 2004 and 2005.⁶⁴³ The report also ranks this issue among the ten most important issues to be addressed by the Foresight exercises in order to support the EU science and technology policies in the future.⁶⁴⁴

⁶⁴⁰ Da Costa et al., 2006.

⁶⁴¹ Da Costa et al., 2007.

⁶⁴² EFMN, 2005.

⁶⁴³ See Figure 12.

⁶⁴⁴ See Figure 13.

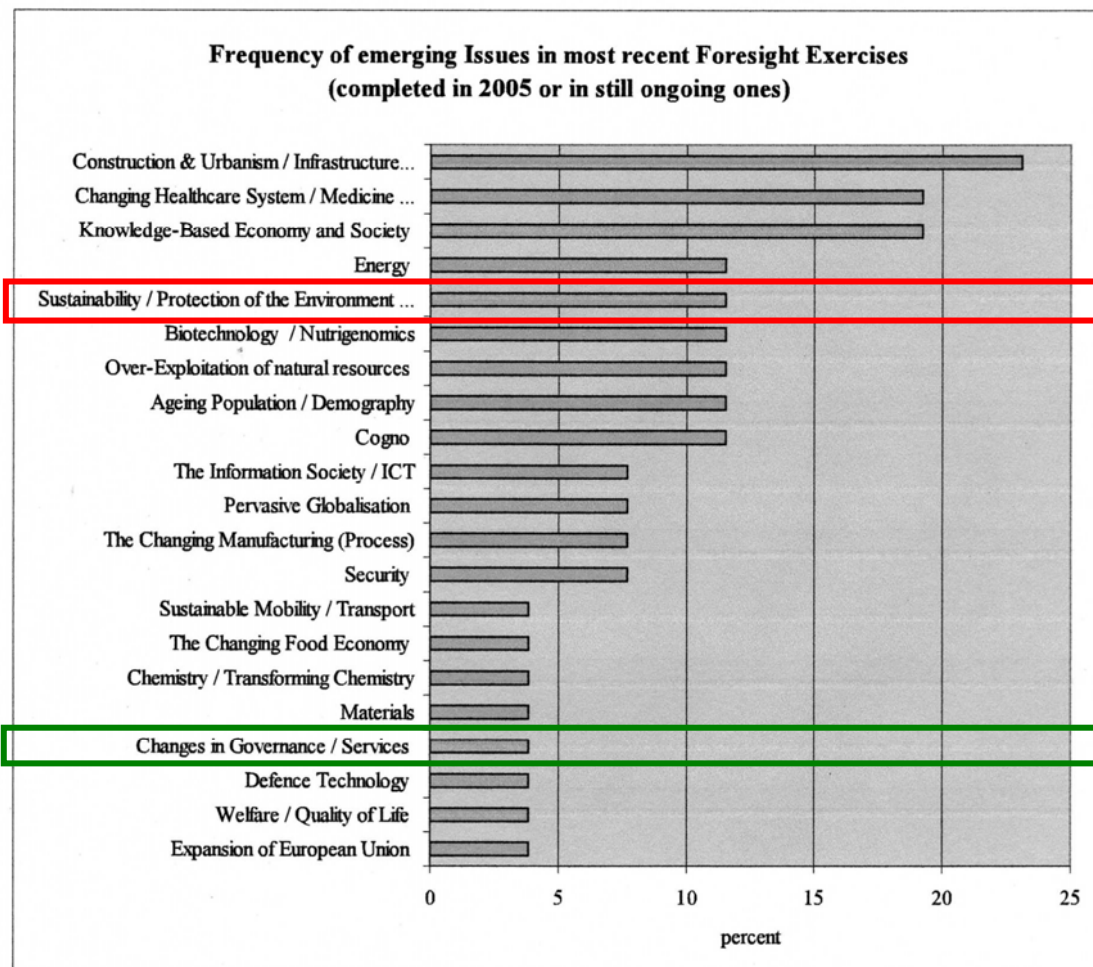


Figure 12: 2005 Ranking of Issues ‘Sustainability / Protection of the Environment’ and ‘Changes in Governance’ in the European Foresight Exercises⁶⁴⁵

The 2005 EFMN Issues Analysis Report⁶⁴⁶ moreover ranks the issue ‘Changes in Governance /Services’ on the place eighteen on the list of most frequently addressed issues by the Foresight exercises in 2004 and 2005.⁶⁴⁷ However, the ranking of the most important emerging issues of Foresight studies lists the issue ‘Changes in Governance/Services’ as the fourth most important issue to be addressed by the future Foresight research in order to support the EU science and technology policies.⁶⁴⁸

⁶⁴⁵ Adapted from EFMN, 2005.

⁶⁴⁶ EFMN, 2005.

⁶⁴⁷ See Figure 12.

⁶⁴⁸ See Figure 13.

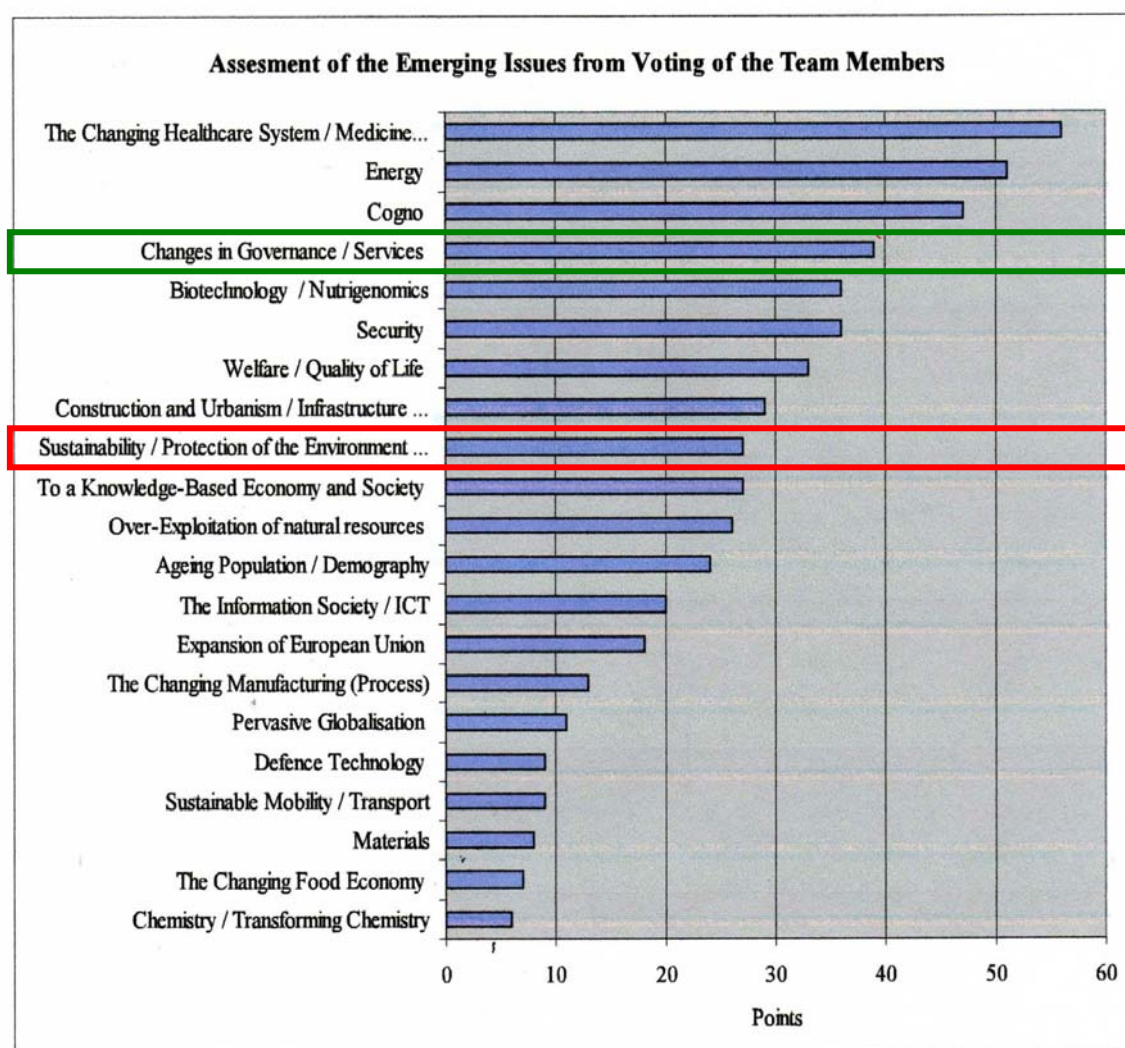


Figure 13: 2005 Ranking of Issues ,Sustainability / Protection of the Environment' and 'Changes in Governance' as Emerging Issues in the EU Foresight Exercises ⁶⁴⁹

In particular, Foresight is seen as an important policy instrument for improving governance of policymaking and participatory democracy and for re-configuration of policy-making bodies around new conceptualisations of topics.⁶⁵⁰ Miles et al. thereby distinguish two common types of Foresight: top-down and bottom-up Foresight. They differ in that they are oriented at different points along a spectrum from technocratic to democratic decision making.⁶⁵¹

⁶⁴⁹ Adapted from EFMN, 2005.

⁶⁵⁰ Da Costa et al., 2007; Interview with Da Costa, 2004; 2007; Interview with Keenan, 2004; Interview with Aaltonen, 2007.

⁶⁵¹ See Table 7.

Table 7: Governance Foresight Approaches

	Type 1 Governance Foresight	Type 2 Governance Foresight
Governance Notion	Technocratic Decision Making	Democratic Decision Making
Outputs of Research	Formal Products	Processes
Research Approach	Top-Down	Bottom-Up
Research Goal	Policy Benefits	Procedural Benefits

When conceiving governance as technocratic decision-making, Foresight practitioners aim at providing knowledge that policymakers might not otherwise have access to due to wide dispersion of knowledge resources and expertise in the knowledge society. This type of Foresight is characterised by a top-down approach to choice and use of FRM that places little stress on interaction. As a result, even when it draws on a wide range of sources, these are analysed and interpreted by a small group of experts. Such Foresight activities also emphasise formal products such as for example priority lists and written reports. The goal of this type of Foresight is to create anticipatory intelligence that is depicting the dynamics of change (e.g., scenarios, roadmaps), future opportunities and threats, strengths and weaknesses of the current system for addressing future challenges, visions of change etc. Da Costa et al.⁶⁵² thus refer to this type of Foresight as ‘Foresight product’.

In contrast, Foresight practitioners who perceive governance as democratic decision-making primarily strive to bring more stakeholders and points of view into the decision-making process.⁶⁵³ In this perspective, Foresight represents “a part of the armoury of methods for deliberative democracy, a way of enhancing social dialogue and informing more people about the key issues at stake – not just about the decisions that have been taken for them.”⁶⁵⁴ This type of Foresight is conceptualised as a bottom-up exercise that places stress on communication, gathering opinions and information from a wide range of sources, and that secures more legitimacy for the ‘ownership’ networks established

⁶⁵² Da Costa et al., 2007.

⁶⁵³ Miles et al., 2002.

⁶⁵⁴ Miles et al., 2002, pp. 39.

around the Foresight activity.⁶⁵⁵ Furthermore, it attempts to produce procedural benefits in terms of facilitating policy implementation. It wants to assist policymakers at creating common grounds such as joint visions, learning platforms and linkages, at developing soft coordination (e.g., by increasing their feeling of ownership of the policy objectives), and at creating distributed intelligence (e.g., by promoting the creation of shared information as an input to policymakers and other stakeholders).⁶⁵⁶ Therefore, it is also referred to as ‘Foresight process’⁶⁵⁷ with the focus on network building, on developing Foresight capabilities, and on ‘embedding’ Foresight into organisations and into wide constituencies of stakeholders. With the ultimate objective of increasing social preparedness to anticipate and to respond to change, policymakers and stakeholders taking part in Foresight exercise are encouraged to exchange opinion, knowledge and strategic thinking. Furthermore, the Foresight process wants to provide policymakers with ‘policy benefits’ by enhancing the receptivity of their organisation and by increasing their capability to react to future challenges and to evolve in phase with policy.⁶⁵⁸

5.3.3. Meta-Physical Foundations of Futures Research Methods

Scholars typically distinguish FRM from other standard methods of social and natural sciences by pointing out the shared metaphysical assumptions that they are based on, including the ontological, epistemological, teleological and ethical assumptions. The literature, among others, points out that the primarily FRM differ from other standard methods in that they are informed by shared ontological assumptions about the relevance and the nature of time.⁶⁵⁹ Typically, they are based on the shared belief in the directionality and irreversibility of time.⁶⁶⁰ Accordingly, FRM are based on the linear and fragmented notion of time as iterative, one-way process consisting of distinct phases: the past, the present and the future. They are grounded in the belief that the past

⁶⁵⁵ See Table 7.

⁶⁵⁶ Da Costa et al., 2007.

⁶⁵⁷ Da Costa et al., 2007.

⁶⁵⁸ Da Costa et al., 2007.

⁶⁵⁹ According to Luhmann’s theory of meaning (1984, 1995), the time dimension represents a central meaning dimension of political thinking. For more see chapter 2.4.

⁶⁶⁰ Bell, 2003a.

and the possibilities of the future are different from the present and that some futures are better than others.

Moreover, scholars highlight several shared epistemological assumptions behind FRM. Mannermaa for example observes that FRM differ from the standard methods in that they represent research paths to “study the present from the point of view of a special interest in comprehending the future.”⁶⁶¹ In his view, what distinguishes FRM from other standard research paths is their interest in comprehending the future and the dynamics of societal change. In contrast, standard research methods typically share an exclusive interest into the actual dimension of social reality,⁶⁶² which deals with the questions what was and what is. Glenn and Gordon claim that FRM share the belief that society cannot control the future, but it can influence the course of history. They point out that FRM are informed by the assumption that while it is not possible to know the future, it is feasible to influence the elements of it. As society includes expectation and decision, the explicit futures thinking is necessary for action because it can increase the effectiveness of human action.⁶⁶³ However, while the primarily FRM are conceived as sharing an explicit interest into understanding the future, Mannermaa⁶⁶⁴ points out that they represent research paths to explore the present, not the future, as some might think. In other words, FRM aim at “making observations at some specific point of time which concerns the existing world at the same moment, not some moment before or after it.”⁶⁶⁵

Scholars also point out shared teleological foundations of FRM. They are typically conceived as decision- and action-oriented methods that were conceptualised to make a difference for decisionmaking processes. They are perceived as research paths to promote the knowledge-based shaping of future social action and to integrate knowledge and values in designing future social action..⁶⁶⁶ Nevertheless, it is a point of general agreement that FRM are based on the shared ethical assumptions. They are

⁶⁶¹ Mannermaa, 1988, pp. 281.

⁶⁶² Wright, 1964, pp.20.

⁶⁶³ Glenn, 2003a, pp. 3.

⁶⁶⁴ Mannermaa, 1988.

⁶⁶⁵ Mannermaa, 1988, pp. 280.

⁶⁶⁶ Bell, 2003a; Interview with Glenn, 2005.

perceived as research paths for integrating knowledge and values to inform future social action and for achieving ethical imperatives such as “making the world a better place where all human being will have an equal and hood chance of living long and satisfying lives, a commitment to the well-being of future generations”⁶⁶⁷ and “enhancing the life-sustaining capacities of the Earth.”⁶⁶⁸

Not all these meta-physical assumptions inform all FRM. However, they do represent the commonly perceived philosophical ground of most primarily FRM that makes them different from the other standard methods used in traditional social and natural sciences.

5.3.4. Futures Research Methods as Tools for Comprehending Futures

In the EU, FRM are commonly discussed as research paths with a declared special interest in comprehending the future.⁶⁶⁹ The literature thereby typically distinguishes three basic intellectual perspectives in order to explore and understand future: the possible, the probable and the desirable futures perspectives.⁶⁷⁰

FRM are commonly understood as means for understanding the desirable futures. In this perspective, they are conceived as research paths to study goals and values judgements of people in order to construct an ethical basis for the long-term notions of good society. Consequently, they are used by policy analysts to deal with questions referring to desirable social reality and to systematically examine what *ought* to be. They are also referred to as ‘methods of ethical or normative reflection’.⁶⁷¹

FRM are also typically conceived as means to understand the probable futures. They are seen as research paths that enable policy analysts to conceptualise societal problems as dynamic entities, and to study them in relation to the likely developments within a period of time and under specified conditions. In this perspective, their primary function is to allow policy analysts to address questions referring to probable social reality, i.e.,

⁶⁶⁷ Bell, 2003a, pp. 186.

⁶⁶⁸ Bell, 2003a, pp. 186.

⁶⁶⁹ Mannermaa, 1988.

⁶⁷⁰ See Figure 14.

⁶⁷¹ Wright, 1964, pp.20.

questions about what *will* be. Therefore, they are also commonly referred to as ‘methods of prediction’.⁶⁷²

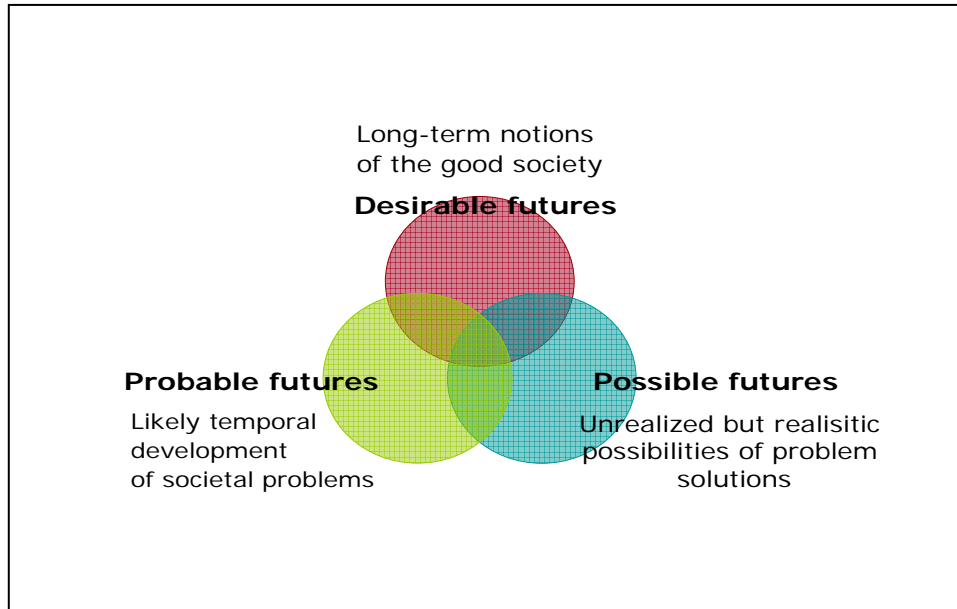


Figure 14: Basic Intellectual Perspectives on the Futures

Nevertheless, FRM tend to be discussed as tools for comprehending the possible futures. They are seen as research paths to uncover the unrealized but realistic possibilities of problem solutions that lie dormant in the world and are rooted in unconventional thinking. The commonly perceived primary function of FRM is to help policy analysts to deal with questions referring to possible social reality, i.e., with questions about what can be. In this perspective, they are typically referred to as the ‘methods of theoretical speculation’.⁶⁷³

The above three perspectives are commonly conceived as useful categories for thinking about the various meanings of reality and discourse about it and for classifying FRM. Thereby, it is argued that the common standard methods developed within other disciplines tend to deal with actual social reality, whilst leaving the possible, probable

⁶⁷² Wright, 1964, pp. 20.

⁶⁷³ Wright, 1964, pp. 20.

and desirable dimensions of social reality largely out of sight. In contrary, FRM are conceived as means that aim at providing input on these three intellectual perspectives that are disregarded by the traditional research methods of perception. In consequence, FRM are seen as tools for filling the gap in the rich reservoir of methods within the scientific research.

However, according to Inayatullah, it is not possible to separate and objectively distinguish these probable/possible/preferred orientations of FRM, for they represent categories that exist within a particular model of the self, namely that of modernism and liberalism, and within a particular regime of truth, “which is exactly that; a regime (not a model which has no political connotations: while regime wreaks of politics and power, for truth is nothing more than power) which has come about at the expense of other configurations of truth, other knowledge paradigms, other discourses.”⁶⁷⁴ He claims that in poststructuralist perspective, it is not possible to separate and objectively distinguish these orientations of FRM as this is often implied in the mainstream largely positivist discourse on FRM.

5.3.5. Systematisations of Futures Research Methods in Foresight

EU discourse on Foresight focuses intensively on reflecting and improving research methods and tools, processes and practices that it is characterised by. The Foresight practitioners rely on what often appears as a jungle of diverse and conflicting research paths. Hence there have been various attempts to survey the research field in order to determine what, if anything, might lend some coherency to the apparent chaos of FRM.⁶⁷⁵ Numerous systematisations of FRM have been developed in order to help practitioners of Foresight to make sense of the heterogeneity of FRM and help them use and combine FRM in the empirical research.

However, an in-depth content analysis of the acknowledged systematisations of FRM shows that they are largely informed by the positivist research methodological paradigm

⁶⁷⁴ Inayatullah, 1999.

⁶⁷⁵ For one of the largest collection of internationally peer-reviewed handbook on methods and tools to explore future possibilities see Gordon / Glenn, 2003; Glenn / Gordon, 2009.

that in several ways promotes the unreflected attitude toward the choice and use of FRM. First, systematisations of FRM typically conceive FRM as homogenous, monolithic, neutral, i.e., context-independent research paths for exploring the social reality that can be clearly delineated from each other and methodologically canonised.⁶⁷⁶ They fail to outline the philosophical and historical foundations of FRM. They disregard that the applicative potential of FRM needs to be reflected in relation to the contemporary and continuously changing modes of thoughts and the resulting epistemological needs.

For example, the Handbook of Knowledge Society Foresight⁶⁷⁷ distinguishes three classes of FRM, including: (1) Forecasting methods based on expert judgement (e.g., genius forecasting, relevance trees, morphological analysis, Delphi method, La Prospective), (2) Forecasting methods based on statistical or mathematical analysis (e.g., trend extrapolation, simulation modelling), and (3) classical participatory social research methods and management and planning methods (e.g., expert panels, SWOT analysis, Benchmarking, Issue Surveys, Mind mapping, Argument Analysis).

Another commonly cited systematisation of FRM in the EU represents the one elaborated in the frame of the COST 22 project of the EC.⁶⁷⁸ FRM are divided into: (1) scenario analysis methods for the development of descriptions of possible future situations in order to anticipate and prepare for upcoming events, (2) participatory methods such as Delphi studies and focus groups where respectively expert and non-expert opinion on a specific issue is collected and analysed, (3) computer simulations methods for representation of possible future situations through computer modelling so as to investigate how present developments might turn out in the future and (4) technology assessment methods for the analysis of technological innovation, its application, and its impacts for use in policy-making contexts.

Secondly, systematisations of FRM tend to neglect the methodological aspects of the uses of FRM for Foresight. When discussing the characteristics of single methods, they

⁶⁷⁶ Lamnek, 1995.

⁶⁷⁷ Miles et al, 2002, pp. 5ff.

⁶⁷⁸ <http://costa22.org/mou.php>

often leave the users of FRM, i.e., the practitioners of Foresight largely out of sight. The outlined features of FRM are largely deprived from the research context, e.g., the paradigmatic and epistemological deliberations of the researchers using them. Instead, the uses of FRM for decision making are discussed in the frame of single case studies. However, the systematisations largely fail to outline how the applicative potential of FRM in the research practice depends from skills of the practitioner and from other external contextual conditions such as the cultural, paradigmatic, financial context.

Third, the systematisations of FRM largely account for the potential of FRM for policy research only in terms of quantitative research. Whilst outlining what is the applicative value of single qualitative and quantitative FRM for measuring, describing, explaining and forecasting different futures, they largely fail to provide any input on how to use FRM for exploring, critically reflecting and shaping the futures. While outlining the applicative potential of FRM for positivist Foresight, they disregard their potential for the interpretative or critical Foresight. Thereby, they imply that the quantitative research logic is the only right logic for inquiry of any kind of aspects of reality from any kind of perspective.

One such example represents Glenn's distinction between qualitative and quantitative FRM that refers to the degree to which a method relies on explicit measurements and numbers.⁶⁷⁹ The quantitative FRM are considered as being based on mathematics, i.e., using equations and precise measuring instruments. In contrast, qualitative FRM are largely seen as methods that do not use numerical measurements to any great degree and rarely rely on statistical analyses. This distinction is problematic as it is informed by a rather narrow understanding of qualitative methodology and methods, which implies that qualitative methods do not allow for quantification. This understanding clearly opposes the interpretative conception of methods adopted in this thesis.⁶⁸⁰ In interpretative methodological perspective, quantification is considered to be an inherent feature of both, quantitative and qualitative methods. Bell, therefore, argues that "the

⁶⁷⁹ Glenn, 2003a. See Table 8.

⁶⁸⁰ See chapter 5.1.2.

quantitative-qualitative distinction is better conceived as a continuum than a dichotomy, most methods allowing for some degree of quantification, however, limited.⁶⁸¹

Table 8: Taxonomy of the Future Research Methodology⁶⁸²

Method	<i>Quantitative</i>	<i>Qualitative</i>
Environmental Scanning		X
Delphi		X
Futures Wheel		X
Trend Impact Analysis	X	
Cross-Impact Analysis	X	
Structural Analysis	X	X
Systems Perspectives	X	
Decision Modelling	X	
Statistical Modelling	X	
Technology Sequence Analysis		X
Relevance Trees and Morphological Analysis		X
Scenarios	X	X
Interactive Scenarios		X
Participatory Methods		X
Simulation and Games		X
Genius Forecasting, Vision, Intuition		X
S&T Roadmapping		X
Field Anomaly Relaxation		X
Text Mining		X
Agent Modelling		X
SOFI Index	X	X
Multiple Perspective Concept		X
Causal Layered Analysis		X

Nevertheless, systematisations of FRM often focus exclusively on the methods developed within a (often not explicitly defined) cultural space. They hence exhibit lacking sensitiveness toward methodological developments and practices in other cultural areas. As a result, the practitioners of Foresight often reinvent methods by giving them another names and presenting single case studies of the use of these methods, although methods have been invented, used and studied in numerous ways for years in other cultures and regions. When using systematisations of FRM as orientation

⁶⁸¹ Bell, 2003a, pp. 243.

⁶⁸² Adapted from Glenn, 2003a.

frames, Foresight practitioners will fail to account for and profit from the methodical and methodological developments elsewhere in the world. Due to the resulting lack of knowledge and exchange on diversity of FRM around the world, Foresight practitioners struggle with the problem of reinventing the wheel. Moreover, the cultural insensitiveness of systematisations of FRM also leads to scepticism and ignorance toward other approaches to choice and use of FRM outside their national or regional borders.

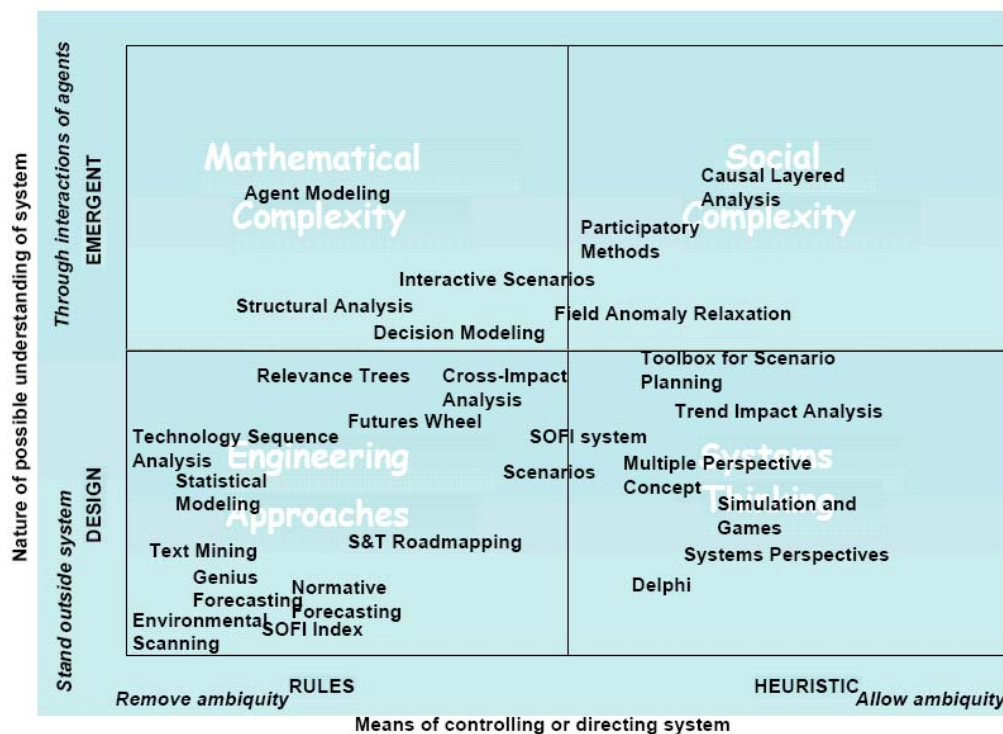


Figure 15: Systematisation of Futures Research Methods by Aaltonen / Barth⁶⁸³

Seldomly, the classifications of FRM direct the attention toward the epistemological value and limitations of FRM within distinct epistemological and research methodological frames of the researchers. If they do, they are often so engrossed with details and nuances in the varieties of FRM that policy analysts end up with a map which is almost as tangled and confusing as the jungle itself. For example, Aaltonen and Barth⁶⁸⁴ outline a classification, in which FRM are classified in terms of their epistemological value for studying the nature of the system (i.e., stand outside the

⁶⁸³ Aaltonen / Barth, 2005, pp. 4.

⁶⁸⁴ Aaltonen / Barth, 2005, pp. 4. See Figure 15.

system, through interactions of agents). Moreover, they are distinguished in their ability to serve as means for controlling or to directing system (i.e., remove ambiguity, allow ambiguity). In addition, Aaltonen and Barth classify them in terms of their potential to enable policy analysts to study complexity (mathematical complexity, social complexity, engineering approaches, systems thinking). However, this systematisation fails to serve policy analysts as a reference frame for tackling the epistemological needs of policy analysis for governance for SD.⁶⁸⁵

To sum up, in order to recognise the applicative value of FRM for policy analysis for governance for SD, policy analysts need to explicitly reflect the epistemological value of FRM for tackling the epistemological needs of the policy analysis for governance for SD. This epistemological value arises from distinct paradigmatic nature of FRM. As the SD concept is grounded in new paradigm thinking, FRM that derive from new paradigm thinking have a higher epistemological value as the ones deriving from old paradigm thinking. However, the contemporary positivist classifications and systematisations of FRM inside the EU Foresight discourse are, therefore, of limited analytical value for policy analysts aiming to inform governance for SD. They fail to serve them as reference frames to critically reflect the epistemological value of FRM for tackling the epistemological needs of policy analysis for governance for SD. In particular, they fail to direct the attention of policy analysts towards the level of coherence between the epistemological value of FRM and the epistemological needs of policy analysts. As such, they represent a central barrier to reflected choice and use of FRM in policy analysis for governance for SD.

Policy analysts using these systematisations as their methodological orientation will largely fail to develop a consciousness for the paradigmatic nature of FRM that is essential for reflecting the applicative potential of FRM for policy analysis for governance for SD.⁶⁸⁶ For example, they will fail to reflect that numerous FRM such as road maps and scenarios have been developed some thirty years ago by scientists and experts who followed purposes, needs, problems and canons which were severely different from the contemporary modes of thought. They will also overlook that most of

⁶⁸⁵ See Figure 15.

⁶⁸⁶ See chapter 6.1.

FRM were developed in the positivist paradigm based on reductionist and fragmented understanding of reality and that they are thus highly incompatible with the new modes of thought about social reality (e.g., the holistic and the integrated thinking) which inform the SD concept.

While policy analysts relying on FRM in order to inform governance for SD can profit from the know-what discourse on Foresight in terms of reflecting the applications of Foresight in policy analysis, the discourse thus offers little inputs on the epistemological value of FRM and different research methodological approach to using them in policy analysis for governance for SD.

5.3.6. Research Methodology for Foresight

Although much of future research methodology and ideas have been institutionalised, there is relatively little documentation, evaluation and agreement about the quality of the use of FRM in Foresight.⁶⁸⁷ The EU ‘knowing-in-action’ Foresight discourse is still at its beginning. There is limited and fragmented reflection of the research styles and on the research methodological approaches to using FRM in Foresight exercises. Consequently, scholars largely agree that currently “there is an imbalance between the high level of operational use of Foresight and the relatively low level of research and development of its methodology.”⁶⁸⁸

However, methodological issues in Foresight do not represent a blind spot in the current EU Foresight discourse. It is now common notion in the EU Foresight discourse that the question of methodology is important for Foresight as it is especially critical to be clear about methodology when attempting to create an understanding of the future.⁶⁸⁹ Foresight experts point towards the need to focus on methodological considerations, as this would be useful in order to better understand the applicative potential of FRM for Foresight and the nature of the knowledge that is generated by Foresight. The For Learn Online Foresight Guide of the JRC of the EC for example argues that “it is critical to be

⁶⁸⁷ Glenn, 2003a.

⁶⁸⁸ <http://costa22.org/mou.php>

⁶⁸⁹ http://forlearn.jrc.ec.europa.eu/guide/4_methodology/framework.htm

clear about methodology when attempting to create an understanding of the future. For instance some methodological considerations might give guidance on why participation is needed to state anything relevant about the future or what it means to be an ‘expert’ etc.”⁶⁹⁰

In the past decade, there have been several efforts taken to fuel the methodological discussions within the Foresight discourse in the EU and to provide a coherent framework for communication and co-operation among the Foresight researchers at the EU level. For example, in 2003, the EC launched a 4-year concerted research action on ‘Foresight Methodologies - Exploring New Ways to Explore the Future’ in the context of sustainability that was designated as European Cooperation in the Field of Scientific and Technical Research (COST) A22.⁶⁹¹ The main objective of the COST A22 was to “develop certain aspects of foresight methodology so as to ensure systematic use and optimum benefit specifically in areas of identifying seeds of change, integrating narratives and numbers, and interaction between researchers, policymakers, and the public.”⁶⁹²

Moreover, the International Seville Seminars on Future-Oriented Technology Analysis,⁶⁹³ which represent the central series of events on Foresight in the EU, typically focus on reflecting the uses of FRM for policy research. The coming International Seville Seminar on the Future-Oriented Technology Analysis (FTA)⁶⁹⁴ in 2011, organised by the IPTS again aims to explicitly address the methodology issues in Foresight. IPTS argues that the FTA as a distinct form of Foresight “should follow certain principles to ensure quality in both processes and outputs and be supported by appropriate combinations of quantitative and qualitative methods, which are fit for purpose and context, and which enable the building of trust through inclusiveness and transparency in processes.”⁶⁹⁵ Against this background, the 2011 FTA Conference seeks

⁶⁹⁰ http://forlearn.jrc.ec.europa.eu/guide/4_methodology/framework.htm

⁶⁹¹ <http://Costa22.org>; Fuller / de Smedt, 2008; COST A22, 2007.

⁶⁹² The project took place within the framework of a European Network for Foresight Methodology that facilitated the communication and co-operation among researchers and practitioners. The project, among others, included several conferences and workshops on Advancing Foresight Methodologies. For more see: <http://costa22.org/mou.php>.

⁶⁹³ <http://foresight.jrc.ec.europa.eu/fta.html>

⁶⁹⁴ In the EU, FTA is commonly understood as a distinct form of Foresight.

⁶⁹⁵ http://foresight.jrc.ec.europa.eu/fta_2011/intro.html

contributions that address premises and practices in combining quantitative and qualitative FTA methods. In 2009, the Yeditepe International Research Conference on the Methodological Issues in Foresight Studies was organised in Istanbul.⁶⁹⁶

The Action FORERA represents another ongoing action carried out in support of the European Research Area Unit of JRC-IPTS that wants to provide “forward looking intelligence to support decision making and improves the use of Foresight as an instrument for policymaking within the European Research Area.”⁶⁹⁷ One of the main foci of FORERA thereby represents monitoring and systematising knowledge on the uses of FRM for policy research. This includes provision and ongoing updating of an Online Foresight Guide and organising of workshops addressing issues such as why to embark on Foresight, how should one design a Foresight exercise, how should one run a Foresight exercise, how the results of the Foresight exercise be used, and how can one assess the effectiveness of an exercise. However, the Foresight guide does not explicitly address the methodology issues as it is considered that this would go beyond its scope. There is also a series of initiatives of the IPTS that are intended to provide a Foresight Knowledge Sharing Platform for Foresight practitioners and policymakers in the EU. They, among others, include the FOR-LEARN project,⁶⁹⁸ the Mutual Learning Platform,⁶⁹⁹ and the ForSociety.⁷⁰⁰ In addition, the EFMN aims at providing Foresight briefs on the examples of Foresight activities on a ‘country by country’ basis, the maps of Foresight initiatives in the world and Management and Mapping and Issues Analysis Reports on Foresight.⁷⁰¹ Moreover, there is a range of Practical Guides to Foresight provided by the EC such as the Knowledge Society Foresight.⁷⁰²

However, all these initiatives and contributions on Foresight practices fail to establish to establish a clear link to the EU recent discourse on the requirements of adapting governance for more SD. Moreover, they also fail to connect the issue of Foresight with

⁶⁹⁶ <http://marc.yeditepe.edu.tr/yircof09.htm>

⁶⁹⁷ <http://forera.jrc.ec.europa.eu/>

⁶⁹⁸ <http://forlearn.jrc.ec.europa.eu/index.htm>

⁶⁹⁹ http://www.innovating-regions.org/network/whoswho/projects_extended.cfm?sub_id=27&project_id=9

⁷⁰⁰ <http://www.eranet-forsociety.net>

⁷⁰¹ <http://www.efmn.info>

⁷⁰² E.g., Miles et al., 2002; http://forlearn.jrc.ec.europa.eu/guide/0_home/index.htm

the current EU discourse on the theoretical, methodological and methodical issues of policy analysis.

An important reference for policy analysts striving to tackle the reflected approach to choice and use of FRM, however, represent the works of the new/third generation futurists active in the broader futures field,⁷⁰³ who explicitly address the applicative potential of FRM from the interpretative perspective. Inayatullah⁷⁰⁴ represents one of the most visible new generation futurists providing contributions to the contemporary methodological and methodical discussion on reflected choice and use of FRM for the futures research. In general, he posits the Critical Futures that are based on the works of post-structuralists, including Michel Foucault, Michael Shapiro and Richard Ashley: “While they speak from an epistemological position that argues that the real is a social construction and thus they seek to relativise culture, they anchor their approach in a commitment to the deconstruction, the analysis, of power.”⁷⁰⁵ Inayatullah,⁷⁰⁶ therefore, argues for the Critical Futures Studies that are based on the deconstructivist version of the interpretative paradigm. In order to integrate the deconstructivist interpretative research logics into the practice of the choice and use of FRM in policy research, he proposes the CLA methodology.⁷⁰⁷ Furthermore, Inayatullah’s handbook ‘Welcome to Futures Studies: Methods, Emerging Issues and Civilisational Visions’⁷⁰⁸ includes several sections on methodological issues of the choice and use of FRM for policy research which are informed by the interpretative notion of methodology and methods.

Slaughter⁷⁰⁹ represents another new generation futurist, who importantly contributes to contemporary methodological and methodical discussion on applicative potential of FRM from the perspective of interpretative research logic. In contrast to Inayatullah, he argues for Critical Futurism that draws on the reconstructive, cultural and hermeneutic

⁷⁰³ Slaughter, 2001. See chapter 6.1.3.

⁷⁰⁴ Inayatullah, 1992; Inayatullah, 1999; Inayatullah / Wildman, 1999; Inayatullah, 2001; Inayatullah, 2002a; Inayatullah, 2002b; Inayatullah, 2003.

⁷⁰⁵ Inayatullah, 1999.

⁷⁰⁶ Inayatullah, 2003.

⁷⁰⁷ Inayatullah, 2001a; 2002a; 2003. For more on CLA see chapters 6.3.3. and 6.3.6.

⁷⁰⁸ Inayatullah / Wildman, 1999.

⁷⁰⁹ Slaughter, 1984; Slaughter, 1995; Slaughter, 1997; Slaughter, 1999; Slaughter 2001; Slaughter 2001a; Slaughter / Inayatullah, 2003.

traditions of interpretative school of thought.⁷¹⁰ In Slaughter's view, the main goal of futures field should be to "recover meanings that are lost in the predictive statistical approach. (...) It is the recovery of alternative futures that have been silenced by various oppressive structures, by a false consciousness."⁷¹¹ He authored several publications which observe the paradigmatic nature of the uses of FRM in the futures field and the dependence of their applicative value from the philosophical deliberations and epistemological needs.

Also Mannermaa⁷¹² studies the paradigmatic nature of the futures research and the philosophical foundations of FRM. Thereby, he highlights the necessity to choose and use FRM in a way that enables to account for the normative nature of futures thinking and makes them sensitive to values, beliefs and narrations behind empirical data. He also critically discusses how the emergence of complexity theory and systems thinking challenged the existing Future Research Methodology.⁷¹³

Hence at this point, the EU Foresight discourse on the research methodological aspects of the uses of FRM in policy research is still in its infancy in the empirical practice. Currently, it fails provide categorisations or typologies of different research methodological approaches to using FRM for policy research that would allow policy analysts to systematically reflect their applicative value for tackling the epistemological needs of policy analysis for governance for SD.

⁷¹⁰ Slaughter, 1984; Slaughter, 1997.

⁷¹¹ Inayatullah, 1999.

⁷¹² Mannermaa, 1988; 2000.

⁷¹³ Mannermaa, 1988.

6. Towards a Meta-Epistemological and Meta-Methodological Frame for Sustainability Governance Foresight

Policy analysts aiming to inform governance for SD can profit from adopting the Foresight approach to policy analysis for governance for SD, i.e., from exercising systematic, participatory, action-oriented, opened vision-building that relies on FRM.⁷¹⁴ However, in order to conduct quality SGF, policy analysts need to choose and use FRM in a way that is sensitive to the epistemological needs of policy analysis for governance for SD.⁷¹⁵ Consequently, they need to emancipate themselves from the unreflected approach to use and choice of FRM that is fuelled by the quantitative research logics that commonly informs the research practices of mainstream policy analysts.⁷¹⁶ Instead, they need to continuously (1) systematically examine the epistemological value of FRM for meeting the epistemological needs of policy analysis for governance for SD, (2) critically reflect the epistemological frame behind their practice of SGF and the related research interest and research goals of SGF, (3) examine their own research methodological logic and approaches to using FRM in relation to the epistemological needs of policy analysis for governance for SD, (4) and adapt them in a way that enables them to better tackle these epistemological needs.

The goal of the chapter is thus to propose a meta-epistemological and meta-methodological frame for exercising SGF that would allow policy analysts to better meet the epistemological needs of policy analysis of governance for SD,⁷¹⁷ including the need to observe the discursive nature of policymaking, the need to account for the processes by which policymakers acquire knowledge, and the need to tackle the deeply uncertain nature of global change. The frame comprises three elements. *Part 1* introduces a paradigmatic classification of FRM that aims to help policy analysts critically examine the epistemological value of FRM for SGF. *Part 2* proposes a

⁷¹⁴ See chapter 5.3.

⁷¹⁵ See Table 5.

⁷¹⁶ See chapter 5.2.1.

⁷¹⁷ See Table 5.

typology of epistemologies of SGF that should enable policy analysts to critically reflect how different epistemological frames determine the research interest, the goals and the outcomes of SGF and how they influence the ability of policy analysts to meet the epistemological needs of policy analysis for governance for SD. *Part 3* sets out a research methodological heuristic for SGF that should serve policy analysts to emancipate themselves from the unreflected choice and use of FRM and to critically reflect and adapt their research methodological approaches to using FRM for SGF in way that is responsive to the epistemological needs.

6.1. Paradigmatic Typology of Futures Research Methods

In order to exercise quality SGF, policy analysts need explicitly reflect the epistemological value of FRM for meeting the epistemological needs of policy analysis for governance for SD.⁷¹⁸ While policy analysts can use any type of FRM for exercising SGF, they need to use them in a way that is sensitive to their epistemological limitations. The epistemological value of FRM for exercising SGF is thereby determined by the level of coherency between the paradigm of the future that informs FRM and the epistemological and research methodological frame informing the policy analysts. In order to help policy analysts critically reflect the epistemological value of FRM for SGF, this chapter thus proposes a paradigmatic typology of FRM that brings their paradigmatic foundations to surface for conscious examination.

The typology of FRM is organised according to Mannermaa's⁷¹⁹ conception of futures thinking that encompasses four different paradigms of futures thinking. The paradigms differ in their approach regarding time and relationships between the present and the past. He calls these paradigms 'four chronological stages or 'generations' of futures thinking'. They include: "total passivity toward the future, desire to forecast the future, scenario thinking and making the future."⁷²⁰ As the total passivity toward the future is irrelevant for futures thinking, the typology of FRM distinguishes the following three

⁷¹⁸ See Table 5.

⁷¹⁹ Mannermaa, 1988.

⁷²⁰ Mannermaa, 1988, pp. 294.

generations of FRM, each representing a derivate of a distinct paradigm of the future:
 (1) Forecasting methods, (2) scenario methods, and (3) critical FRM.⁷²¹

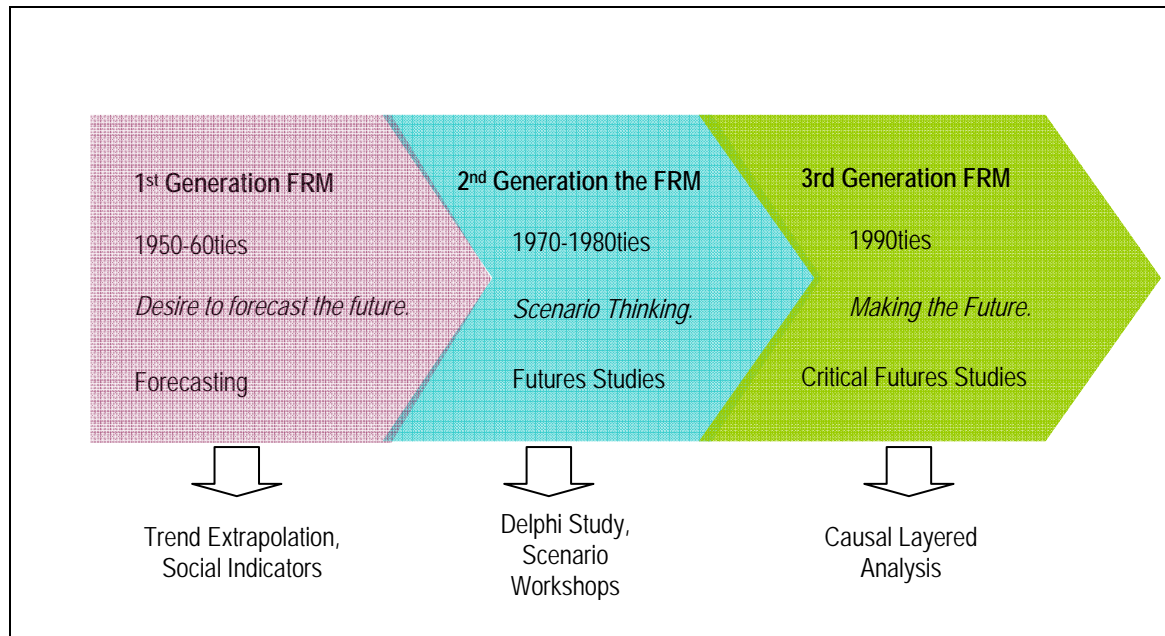


Figure 16: Paradigmatic Typology of Futures Research Methods

6.1.1. First Generation: Forecasting Methods

The first generation FRM are informed by futures thinking that is characterised by desire to forecast the future and “to make plans and perform activities fitted to the ‘forecasted’ futures as perfectly possible.”⁷²² They have primary epistemological value within the positivist research methodological approach to SGF. They are conceptualised to explore the future societal change as framed in the old paradigm perspective, i.e., as a linear process. They are primarily aimed at diminishing the uncertainty of the future and at controlling it by uncovering the simple mono-causal relationships between distinct parts of social reality, by studying the first order reality, and by emphasising empiricism, testability, objectivity and rationality.

⁷²¹ See Figure 16.

⁷²² Mannermaa, 1988, pp. 294.

The first generation of futures thinking became the dominating way of futures thinking in the 1950ties and the 1960ties.⁷²³ It informs a distinct type of core activity in the futures field that is commonly known as 'Forecasting'.⁷²⁴ Thus the first generation methods are commonly referred to as the 'Forecasting FRM'.⁷²⁵ They for example include different trend-extrapolation techniques, which build on the mechanic projection of the past trends into the future. Another popular technique are the 'social indicators'⁷²⁶ for monitoring the state of society in order to produce some quantitative picture of society as "a way of knowing where it had been, where it was going, and how to make sound decisions about social policy."⁷²⁷ The 'State of the Future Index'⁷²⁸ developed by Gordon and Glenn represents one such example of a set of social indicators to track and forecast expectations about the ten-year future outlook.

6.1.2. Second Generation: Scenario Methods

The second generation FRM are informed by the notion of the future "as consisting of a range of possible alternatives, more or less probable, more or less desirable."⁷²⁹ This second generation of futures thinking emerged in the 1970ties and 1980ties.⁷³⁰ It acknowledges and embraces the uncertainty of the future instead of trying to control it. It informs a distinct type of core activity in the futures field that is commonly known as 'Futures Studies'.⁷³¹

The second generation FRM tend to "connect together various driving forces, trends, and conditioning factors so as to envisage alternative futures."⁷³² They are primarily aimed at exploring how the future might or should evolve in different ways. The second generation FRM, among others, include different scenario techniques that attempt to prepare policymakers for threats and desirable alternatives in the future. They have been

⁷²³ Miles et al., 2002.

⁷²⁴ See chapter 5.3.1.

⁷²⁵ Miles et al., 2002.

⁷²⁶ Bell, 2003a.

⁷²⁷ According to Bell (2003a), the 'social indicators movement' emerged in the 60ties on the basis of the initial Ogbourn's idea of the need to monitor the state of the society by using variety of social indicators.

⁷²⁸ Gordon / Glenn, 2006.

⁷²⁹ Gordon, 2003. See also Glenn/Gordon 2004; 2005; 2006; 2007; 2008; Glenn et al, 2009, 2010.

⁷³⁰ Miles et al., 2002.

⁷³¹ See chapter 5.3.1.

⁷³² Miles et al., 2002, pp.33.

strongly influenced by the rise of the issues such as environmental problems and the emergence of the innovative information and communications technologies. They have found first proponents in large corporations and military, which have interests in strategic analysis across a wide spectrum of problems.⁷³³

The second generation FRM have primary epistemological value for both, the quantitative and qualitative research approach to SGF, and in particular for the reconstructivist research methodological approach to SGF. Policy analysts informed by old paradigm thinking conceive the uncertain and ambiguous nature of the future as a consequence of the ontological assumption that the world represents a complex system that is subject to accelerating complex change.⁷³⁴ They can use scenario techniques in order to elaborate simple range of deviations from the norm as strategic alternatives that have as their assumption a culturally defined present. For example, the scenario techniques allow them to construct alternative scenarios as narrations on high and low figures that constitute deviations from the norm.⁷³⁵ The second generation FRM can hence be applied in order to point toward alternatives on the basis of culturally defined present, while disregarding different ways in which other cultures frame the world. A prominent example of the use of the second generation FRM within the positivist methodological framework represents the Report on 'The Limits to Growth' that is based on the system-dynamics modelling and computer simulations.⁷³⁶

In contrast, policy analysts who are informed by new paradigm thinking aim to address the uncertainty of the futures as a consequence of the epistemological assumption that the world is socially constructed.⁷³⁷ They thus use the second generation FRM in order to focus on meaning and to subjectivise as well as relativise the future at expense of

⁷³³ Policy research drawing on the second generation FRM in particular emerged in decision-making contexts following the Second World War in the fields such as United States military strategic planning with the RAND Corporation, and in French spatial planning with DATAR, the National Institute for Spatial Planning (<http://costa22.org/mou.php>; Bell, 2003). The General Electric and Roway Dutch/Shell used the second generation FRM in their corporate planning procedures in the 1960s. The NGOs worked with the scenarios of socio-economic and environmental futures to introduce the first global models that attempted to address these issues in an integrated fashion. For more see Miles et al., 2002; Bell, 2003.

⁷³⁴ See Figure 17.

⁷³⁵ Inayatullah, 1999.

⁷³⁶ Meadows, 1972. For an overview of the methodological critique on the Report 'Limits to Growth' see Bell, 2003a, 40ff.

⁷³⁷ See Figure 17.

politics. So as to create alternative futures, they for example use scenario techniques to discern how different cultures create the future and what the future will be like. Hence the scenario techniques also have primary epistemological value for reconstructive research, i.e., for creating new, culturally self-aware alternative interpretations of the future, shared discourses and authentic conversation of the futures.⁷³⁸ They can be used as means for exploring the world as framed in the reconstructivist perspective deriving from new paradigm thinking.

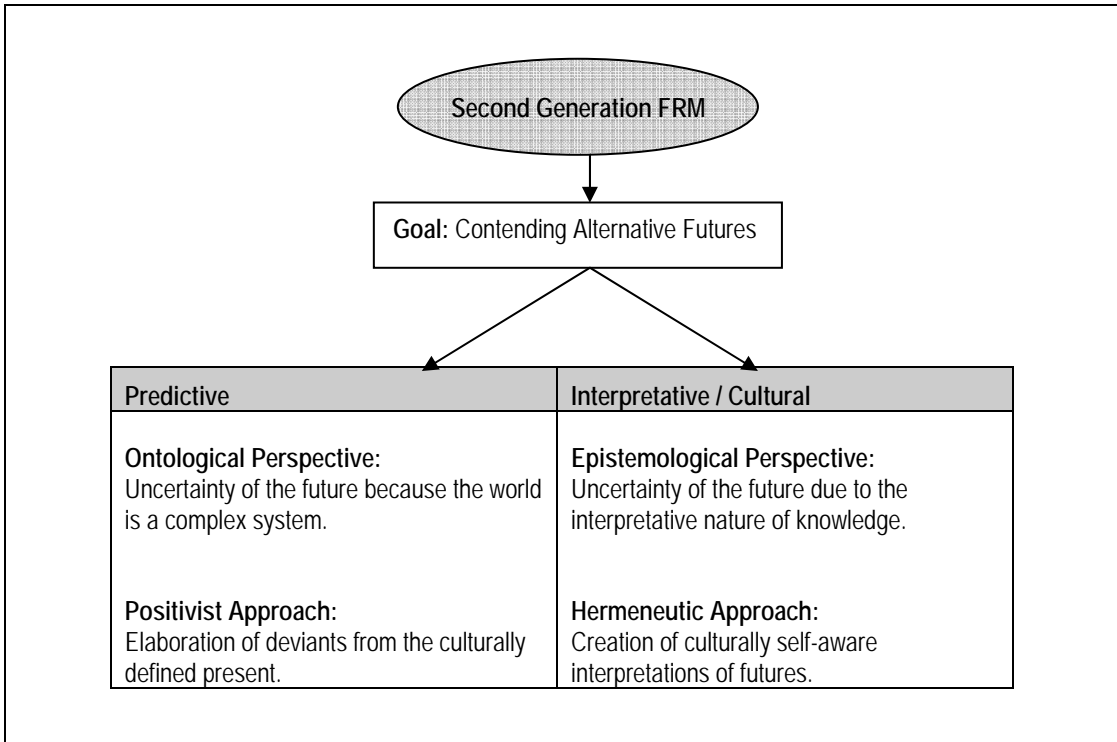


Figure 17: Second Generation Futures Research Methods

6.1.3. Third Generation: Critical Methods

The third generation FRM are informed by the idea of ‘making the future’.⁷³⁹ This type of FRM began to emerge in the late 90ties as a result of the transition from ordinary scenario thinking to futures thinking that realises its own normative and paradigmatic

⁷³⁸ Mannermaa, 2002.

⁷³⁹ Mannermaa, 1988.

nature.⁷⁴⁰ Such futures thinking gave rise to what became commonly known as ‘Critical Futures’,⁷⁴¹ ‘Critical Futures Studies’,⁷⁴² or ‘Critical Futurism’.⁷⁴³

The critical FRM are informed by the radical constructivism and by the works of post-structuralists such as Michel Foucault. Instead of ‘relativising culture’ as this is the case with the second generation FRM, the critical FRM are committed to deconstruction, i.e., to analysis of power.⁷⁴⁴ They are developed on the basis of the assumption that personalities are always present in all scenarios and in understanding of present reality. Thus there is always an element of ‘making the future’ in all statements about the future.⁷⁴⁵ Moreover, they are informed by the belief that the real is a social construction. Hence they focus on the meaning. They represent research paths for historicising and deconstructing the future in order to challenge the categories of thinking for constructing alternative futures. In other words, they represents means for reinventing the futures for example in sustainability perspective. As such, they have primary epistemological value for critical research approach to SGF informed by new paradigm thinking.

An example of the third generation FRM represents the CLA⁷⁴⁶ that applies poststructuralism as a method. Being concerned with opening the present and the past to create alternative futures, it “focuses less on the horizontal spatiality of futures – in contrast to techniques such as emerging issues analysis, scenarios and backcasting – and more on the vertical dimension of futures studies, of layers of analysis.”⁷⁴⁷ Slaughter hence “considers it a paradigmatic method that reveals deep worldview commitments behind surface phenomena.”⁷⁴⁸ It aims at creating new epistemological or transformative spaces for questioning of the future and creating alternative futures by offering means for analysis of policy issues from numerous levels, including “common

⁷⁴⁰ Menermaa, 1988.

⁷⁴¹ Slaughter, 1999; Inayatullah, 1999.

⁷⁴² Inayatullah, 1999.

⁷⁴³ Slaughter, 1984. For more see chapter 5.3.3.

⁷⁴⁴ Inayatullah, 1999.

⁷⁴⁵ Mannermaa, 1988.

⁷⁴⁶ Inayatullah, 2001a; 2002a; 2003. See chapters 6.3.3 and 6.3.6.

⁷⁴⁷ Inayatullah, 2001a.

⁷⁴⁸ Inayatullah, 2001a.

rationality; the social and policy sciences; the discursive (as constituted by different worldviews) and the metaphorical or mythical.”⁷⁴⁹

To conclude, the typology of FRM classifies FRM in the futures field in three distinct generations of FRM that are informed by distinct paradigms of the future.⁷⁵⁰ All three types of methods can be viewed, to an extent, as phases in development of the futures field: from positivism, to its critique, to present post-positivist efforts. This typology not only allows policy analysts to critically reflect the epistemological value of FRM, i.e., the benefits and limitations of their uses within different epistemological and research methodological frames. It also enables them to systematically explore the possible synergies between different generations of FRM. For example, it shows that the third generation methods such as the CLA open up space for articulation of constitutive discourses, which can then be shaped as scenarios that are elaborated by the second generation scenario techniques.

6.2. Epistemologies in Sustainability Governance Foresight

The distinct epistemological position of policy analysts not only determines the research interest and goals of SGF, but also their preference for and their use of FRM in SGF. In order to practice quality SGF, policy analysts thus need to explicitly reflect what types of SGF emerge from different epistemological positions, and how different epistemological frames influence their ability to meet the epistemological needs of policy analysis for governance for SD.⁷⁵¹ This chapter proposes a three-dimensional model of epistemologies in SGF in order to help policy analysts critically reflect, what epistemological frame is of high applicative value for exercising SGF in a specific research context. Drawing on Inayatullah,⁷⁵² the model links the EU Foresight practices to three alternative epistemological positions: the positivist, the interpretative and the

⁷⁴⁹ Inayatullah, 1999. For more on the CLA see chapters 6.3.3. and 6.3.6.

⁷⁵⁰ See Figure 16. Although the above classification of FRM helps bringing the distinct paradigmatic nature of FRM to surface for conscious examination, it is important to keep in mind that each generation of FRM represents somewhat ideal typology and that not every FRM can be fitted into (just) one of these three categories.

⁷⁵¹ See Table 5.

⁷⁵² Inayatullah, 1999; 2001.

critical. Accordingly, the model of epistemologies in SGF argues that SGF can be based on three different epistemes, i.e., larger historical boundaries of knowledge that order the real and our knowing of it. None of the three epistemologies - positivist, interpretative and critical - represents a concrete regime of truth. Rather, they represent languages, ways of seeing, discourses, and negotiable assets that can be used by policy analysts to better understand and inform governance for SD.

Different types of SGF and policy advice on ways to adapt governance for more SD emerge from the three epistemological positions of policy analysts when exercising SGF.⁷⁵³ Positivist SGF produces single-value deterministic images of the future that simply reinscribe the present even while they ‘predict’ the future. Interpretative SGF, while significant in expanding the discourse of the future across cultures, relativises the future at the expense of politics. By historicising and deconstructing the future, critical SGF creates new epistemological spaces that enable the formation of alternative futures.⁷⁵⁴ The typology thus shows that policy analysts can follow a wide range of research interests and goals when exercising SGF, which can be categorised in relation to three epistemological positions: the positivist, the interpretative and the critical. Mainstream policy analysts thereby typically rely on the positivist epistemology that is captured by the predictive orientation.

Table 9: Epistemologies in Sustainability Governance Foresight

SGF Approach	Interest	Outputs
Positivist SGF	Controlling the future by forecasting what will happen.	Single-value visions in a given plan or episteme, i.e., quantitative deviations from the norm ('litany type visions').
Interpretative SGF	Decolonising and subjectivising the future by reconstructing the images of the futures in various contexts, cultures and organisations.	Culturally self-aware interpretations of the future ('systemic type visions').
Critical SGF	Reinventing the futures by deconstructing how different regimes of truth define the ways to frame and language the future.	Alternative worldview visions in order to bring into being new schemes of politicization ('worldview type visions').

⁷⁵³ See Table 9.

⁷⁵⁴ Inayatullah, 1999; 2001.

6.2.1. Positivist Sustainability Governance Foresight

Positivist Foresight represents an opened, participatory and decision-oriented approach to vision-building that aims at controlling the future by forecasting what will happen.⁷⁵⁵ Typical outputs of positivist Foresight are alternative visions in a given paradigm or episteme. They represent single-value deterministic images of the future that ignore the uncertainty arising from unprecedented events, noise, chance, systemic changes, experimental and observational errors as well as from the underlying values and assumptions.⁷⁵⁶ These visions represent a simple range of quantitative deviations from the norm, expressed by high and low figures on present projections of a policy issue. They are referred to as ‘litany type of visions’.⁷⁵⁷

Positivist Foresight is captured by the predictive orientation. It attempts to find invariance and identifies trends and events on the basis of the regularity principle.⁷⁵⁸ It typically relies on the quantitative FRM such as the econometric methods that are used in order to construct future events and trends based on regularities within a distinct frame of time. The linear Forecasting or Backcasting are the techniques used most in this type of Foresight. While most physical and social systems are nonlinear⁷⁵⁹, they make linear approximations because “linear equations are simpler to handle mathematically and over vast regions of operation the linear models provide a good match with reality.”⁷⁶⁰ Thereby, practitioners of positivist Foresight often seem to confuse quantity with quality. End products are future scenarios in which the qualities remain the same, while the quantities change: more people, more cars, wider highways, faster planes, bigger bombs etc.⁷⁶¹ Policy analysts tend to disguise these deviations from the norm as alternative futures thinking. However, as Von Foerster argues, future scenarios applying the rules of the past so as to construct alternative future visions are meaningless in a changing world.⁷⁶²

⁷⁵⁵ See Table 9.

⁷⁵⁶ Gordon / Glenn / Jakil, 2005.

⁷⁵⁷ Inayatullah, 2001; 2001a; 2003.

⁷⁵⁸ Von Foerster, 1979a.

⁷⁵⁹ See chapter 2.3.4.

⁷⁶⁰ Gordon / Glenn / Jakil, 2005, pp. 1066.

⁷⁶¹ Von Foerster, 1979, pp. 5.

⁷⁶² Von Foerster, 1979a.

In the epistemological perspective, positivist Foresight strives to capture the real by leaving the episteme unexamined. The future events that it constructs hence exist only within a certain episteme. Consequently, positivist Foresight implicitly positions the present as a realised good society for it fails to question and capture the structural change of society. This creates the problem of probabilistic values that are assigned to occurrence of future events. Also left naturalised are the theoretical assumptions as to what is foreseeable, the data assumptions as to what is observable, and the values assumptions as to what is preferred and even more importantly the categories of theory, data, values and their ordering.⁷⁶³ By disregarding the perspectivity of observations and empirical data, positivist Foresight remains widely insensitive to meaning and symbolism. In positivist Foresight, it is also assumed that the language is neutral, i.e., it is not seen as actively constituting the real. The language is conceived as merely describing reality and serving as an invisible link between theory and data.⁷⁶⁴ One of the reasons is that policymakers often create obscure languages because that language serves particular interests. Hence they prefer to leave the language unexamined in order that it continues to determine what images of the future are possible, and which are likely to achieve a given reality.

Positivist Foresight represents the dominating approach in the EU Foresight exercises. It is not only favoured by policy analysts but also by experts such as planners, futurists or economists. Consequently, the strategic discourse is most prevalent in this epistemological framework. This raises the question, what is the applicative value of positivist approach to SGF? How does it promote the capacity of policy analysts to meet the epistemological needs of policy analysis for governance for SD?⁷⁶⁵ And how does it increase their ability to help policymakers tackle the cognitive barriers of perceiving policymaking in the SD perspective?⁷⁶⁶

⁷⁶³ Inayatullah, 2001; 2001a; 2003.

⁷⁶⁴ Innayatullah, 2001.

⁷⁶⁵ See chapter 4.5.

⁷⁶⁶ See chapters 2 and 3.

On one hand, positivist SGF enables policy analysts to support policymakers at creating visions that allow them to explore different solutions to the problems within their own episteme. It for example permits them to create targeted strategies and actions to minimise the envisioned negative trends and to empower the positive trends as elaborated from the culturally defined present. According to Inayatullah, “it gives ready made futures forgetting the institutional practice and values that go into making them.”⁷⁶⁷ Hence the information that it produces is valued by policymakers as it “provides lead time and a range of responses to deal with the ‘enemy’, whether it be a competing nation or corporation.”⁷⁶⁸

However, due to the way in which positivist SGF constructs future events, it falls short in promoting the capacity of policy analysts to tackle the epistemological needs of policy analysis for governance for SD. By leaving the language and the perspectivity of policy-relevant knowledge unexamined, it limits their capacity to account for discursive and pluralist nature of policies. Thus the language employed by policymakers so as to seek and maintain power continues to determine the images of the future. Policymakers drawing on positivist SGF stay focused in the present and continue to serve the current structure. This type of SGF enables them to gain new political alliances, achieve ‘modernity’ and acquire funding and prestige. However, it does not challenge them to make sustainability shift in their political thinking about the future. When adopting positivist approach to SGF, policy analysts also lack the capacity to account for deep uncertainty of global change, for they remain blind for the qualitative change, i.e., the change in subject-object and subject-subject relationships.⁷⁶⁹ Consequently, policymakers relying on positivist SGF will fail to build flexible governance that is resilient to deep qualitative societal change and that is sensitive to black swans or wild cards, i.e., events that lie outside the realm of the regular expectations (i.e., nothing in the past can convincingly point to its possibility).⁷⁷⁰ Without grounding it in critical analysis, positivist SGF can hence transmit a false filling of certainty about the future. It can also be misused by policymakers to signal that alternatives have been considered,

⁷⁶⁷ Inayatullah, 2003, pp. 22.

⁷⁶⁸ Inayatullah, 2001.

⁷⁶⁹ Von Foerster, 1979, pp. 5.

⁷⁷⁰ Walker, 2010, pp. 918.

i.e., to make “symbolic gestures to show funding agencies and critics that possibilities of what can happen have been planned for.”⁷⁷¹

6.2.2. Interpretative Sustainability Governance Foresight

Interpretative Foresight stands for opened, participatory, decision-oriented vision-building that strives to decolonise and subjectivise the future by reconstructing the images of the futures in different contexts, cultures and organisations.⁷⁷² Interpretative Foresight aims to account for the existence of alternative values systems and life styles in order to encourage free, symmetrical dialogue among them in spite of all differences. Typical outputs of interpretative SGF thus represent culturally self-aware interpretations of the future that discern how other cultures frame the future, and what they think the future will be like. Interpretative futures visions are hence commonly referred to as ‘systemic type visions’.⁷⁷³

Interpretative Foresight is rooted in the reconstructivist paradigm. One of the main tasks of interpretative Foresight is to recover the futures thinking of policymakers that has been colonised by the Western tradition of modernity. In order to do so, it is concerned with reconstructing how a particular future (e.g., the capitalist future) has emerged as universal future, what new futures might follow these historical patterns, and how alternative futures such as SD might dramatically transform this historical pattern. Interpretative Foresight is also an effort to identify cultures and perspectives that have been suppressed in the mainstream discourse in order to help policymakers in articulating and realising new visions. Typical questions that are addressed in interpretative Foresight for example include: How do different state actors (e.g., ministries) and stakeholders frame policy problems such as climate change? What are the differences between their images of future climate change? What are the implications of different images of the future climate change for governance? And, how can governance be made more resilient for differences in perceiving climate change?

⁷⁷¹ Inayatullah, 1999.

⁷⁷² See Table 9.

⁷⁷³ Inayatullah, 2001; 2001a; 2003.

Interpretative Foresight creates a possibility of a world in which the elites are not at the top - politically, economically, culturally and more importantly epistemologically. Aiming to decolonise the future, interpretative Foresight creates a possibility that the present (e.g., the liberalism and the capitalism) will not continue to be the future for many centuries to come. It opens the possibility that alternative visions such as the SD vision adjust the dominant capitalist vision of continued growth and thereby creates the possibility for rearranging governance structures, processes and tools in a way that will enable to put the society on the tracks of SD. Interpretative Foresight thus allows policy analysts to help policymakers see that their futures thinking is peculiar instead of insisting that it is universal. It enables them to sensitise policymakers for the fact that their notion of the category future as well as their comments of the future are “bound by and are intelligible in various cultural contexts.”⁷⁷⁴ By relativising future, interpretative Foresight enables policymakers to see the different ways in which time, history and progress can be constituted through and across culture. It allows for the comparison of many images of the future: dominant and recessive ones.

Instead of less policy choices to be made, interpretative Foresight, therefore, creates more policy choices. As a result, the future, instead of becoming more certain, as most policymakers would like it gets even more uncertain. The future suddenly becomes negotiable for policymakers. The type of policymaking that emerges from this perspective is one of multiple understandings. Consequently, Inayatullah⁷⁷⁵ warns that it should be of no surprise if public administrators and politicians resist the alternative visions deriving from interpretative Foresight, except when they are constructed as minor deviations from the present. In contrast, groups that are less consolidated in various power structures such as social movements or people’s associations might exhibit greater openness to such type of Foresight. Hence some scholars still find it difficult to assert that alternative futures, which are different from the modern paradigm, could be taken seriously.

⁷⁷⁴ Inayatullah, 1999.

⁷⁷⁵ Inayatullah, 1999.

The interpretative approach to SGF has the potential to increase the capacity of policy analysts to meet the epistemological needs of policy analysis for governance for SD.⁷⁷⁶ By subjectivising the future, interpretative SGF allows policy analysts to help policymakers see the limits of their own futures thinking. By outlining how different groups of actors see the real, it enables policymakers to learn from their efforts and to see themselves anew. Moreover, interpretative SGF forces policymakers who tend to constitute themselves in a problem solving mode not to dismiss alternative futures deriving from other contexts, cultures and organisations (e.g., different operationalisations of the SD concept or difference development paradigm). In this way, interpretative SGF can increase the capacity of policy analysts to support policymakers at creating governance for SD that addresses different alternative social causes. Interpretative SGF can, therefore, enhance the capacity of policy analysts to support policymakers at designing inclusive governance for SD that is resilient to deep societal change. Moreover, it enables them to make the deep uncertainty of societal change explicit.

However, there are several limitations to the applicative value of interpretative SGF for policymakers aiming to adapt governance for more SD. First, interpretative SGF might lead to situation where any future is as good as any other future. As a result, policymakers are left anchorless in the sea of cultural futures visions. Interpretative SGF can thus be somewhat uncomfortable for policymakers in that instead of certainty about how to adapt governance in order to better promote SD, what emerges is a relativisation of the governance futures. Furthermore, interpretative SGF disregards the differences between the cultures as it conceives cultures as essentially unified ('we are all one') or as fundamentally distinct ('this is our way'). In this way, interpretative SGF is thrown out with culture moving to a site outside of criticism.⁷⁷⁷ Nevertheless, interpretative SGF fails to account for evolutionary and dynamic nature of culture that might entirely change in the course of time. It results in alternative visions that freeze time horizontally (across culture). Due to this de-politicization of power and time, policy analysts fail to inform policymakers about the ways how power circulates in the futures images and visions. Without grounding interpretative SGF in critical, i.e., deconstructivist analysis,

⁷⁷⁶ See Table 5.

⁷⁷⁷ Inayatullah, 1999.

what can emerge are futures visions of the good that enslave possible, and alternative cultures which merely repeat the history of the past.⁷⁷⁸

6.2.3. Critical Sustainability Governance Foresight

Critical Foresight represents an opened, participatory and decision-oriented approach to vision-building that aims at relativising the future by deconstructing how different regimes of truth define the ways to frame and language future.⁷⁷⁹ The end product of critical Foresight represent alternative ‘worldview type visions’⁷⁸⁰ that seek to uncover the regimes of truth which define the way we see, speak and ‘language’ the future in enable policymakers to explore how their self has become a subject of various discourses and structure, and how it is shaped by them.⁷⁸¹ Instead of defining yet another political position in a form of an alternative future vision or plan, critical Foresight aims to imagine and bring into being new ‘schemes of politicisation’⁷⁸² of an issue that policymakers strive to solve. It wants to uncover not yet widely shared alternative discourses with immense potential for framing disputed issues in a way that allows for joint action. In this way, it allows policymakers to reinvent the futures.

Like interpretative approach, critical approach to Foresight speaks from the epistemological position that the real is socially constructed. In consequence, critical Foresight aims to relativise culture. However, in contrast to interpretative Foresight, it is committed to deconstruction, i.e., to analysis of power. Being rooted in the poststructuralist or deconstructivist paradigm,⁷⁸³ it attempts to make ‘the real’ political, i.e., to historicise it and make it peculiar. It strives to depict, how alternative worldviews constitute futures, i.e. how they are complicit to framing futures and how they legitimise the deeper social, linguistic and cultural structures. Critical Foresight puts into question that which is planned. It makes the way we speak contentious. It expounds the problems of current language and categories which continue to reinscribe the power-politics of the

⁷⁷⁸ Inayatullah, 1999.

⁷⁷⁹ See Table 9.

⁷⁸⁰ Inayatullah, 2001; 2001a; 2003.

⁷⁸¹ Inayatullah, 1999.

⁷⁸² Shapito, 1991.

⁷⁸³ See chapter 5.1.1.

present and the alternative possibilities of the future. It examines how alternative possibilities of the future became the sole ways of describing something by evoking alternative futures in which rationality, mind and order are differently constructed. Moreover, it contests the ground of issues by inquiring how a particular policy problem has come to be framed.⁷⁸⁴

In contrast to positivist Foresight, critical Foresight does not offer replications ('blueprints') of visions in order to endorse and empower political movements on behalf of policymakers or stakeholders. The practitioners of critical Foresight do not simply explore how trends affect the pace of issues to be addressed by policymakers, but how the issues emerged as categories of thought. Instead of taking for granted the issues in various regression forecasts, they take issue to it. The critical Foresight thus has the ability to reposition issues from a neutral apolitical site to a political one, wherein it examines them as a part of larger way of constructing the world. It critically reflects present categories of thought, which in turn do no longer represent frozen mentalities and a-historical concepts.⁷⁸⁵

Critical Foresight aims at questioning existing forms of power in creating authoritative discourses and the existing categories of thinking. It allows policy analysts to demonstrate how the cultural ways to create future have emerged, how a certain way to create future has become the dominating way and how do decisions based on distinct types of futures thinking affect the circulation of power. It thus enables policy analysts to help policymakers explore alternative ways how, through practice, issues and strategies planned are constructed and empowered as a subject of history, what effects these practices of constructing and empowering issues might have for governance, and what governance options do these practices engender and open up? Critical Foresight for example addresses questions such as: How do alternative discourses or worldviews constitute the problem and the solution? How are they are complicit to framing an issue and solution? How do they legitimise the deeper social, linguistic and cultural structures? Critical Foresight, therefore, not only strives to create the obvious radical neoliberal vision of growth ("go forth and externalise environmental costs") and

⁷⁸⁴ Cf. Inayatullah, 1999; 2001.

⁷⁸⁵ Cf. Inayatullah, 1999; 2001.

confront it with the strong sustainable vision of growth (“take care of the environment first”) as this is the case with interpretative Foresight. It also searches for alternative ways of politicization of growth that lie in between such as for example the weak sustainable vision of growth (“balance the world”).

Critical approach to SGF can be highly beneficial to policy analysts aiming to inform governance for SD as it can increase their capacity to tackle the epistemological needs of policy analysis for governance for SD.⁷⁸⁶ Among others, it allows policy analysts to promote complex policy learning, i.e., to help policymakers see themselves as products of various ways of constituting the world, which are opened to negotiation and debate by anyone. Moreover, critical SGF enables policy analysts to tackle the pluralist nature of policymaking. It allows them to help policymakers understand how discourses influence their framing of policy issues such as climate change as well as of governance measures to solve them. For instance, if the poverty is understood predominantly in terms of economic indicators, only economic measures are going to be suggested. In addition, critical SGF allows policy analysts to support policymakers at recognising that future(s) that they nominate as eligible stems from the type of their epistemological approach. Critical SGF also enables policy analysts to help policymakers explore why and how their own understanding of issues and the corresponding decisions differ from those of the other relevant actors. In this way, it facilitates the review of policymakers’ own notion of problems and promotes their capacity to question their own way of finding governance solutions and searching for additional and new perspectives that might bring more comprehensive results. In this way, it can increase the capacity of policy analysts to help policymakers to reform governance for more SD that addresses multiple-issue nature of policy problems and that works against the oppressive social structures that are complicit in preventing the realisation of SD. Nevertheless, critical SGF allows policy analysts to develop future visions that enable policymakers to inquire their epistemological construction of the future. In this way, they provide spaces in which unconventional action planning can come forth.

⁷⁸⁶ See Table 5.

However, similarly as interpretative SGF, critical SGF limits the ability of policy analysts to outline procedures for making final decisions. This is because its reflexivity prevents it from evading to pragmatic simplifications and limits its capacity to support policymakers to reach decisions necessary for actions.⁷⁸⁷ Both, interpretative and critical SGF hence seem to be complementary to positivist SGF that aims at empowering policymakers via problem-solving visions building that help them to articulate values, to develop strategic plans and to implement them.

6.3. Research Methodological Heuristic for Sustainability Governance Foresight

Policy analysts can profit from all three types of SGF that derive from the following epistemological positions: the positivist, the interpretative and the critical. The epistemological frame that policy analysts choose to rely on thereby importantly determines the research interest, the research goals and the outcomes of their SGF exercise.⁷⁸⁸ In order to fulfil these research interests, goals and purposes, policy analysts can rely on a wide range of FRM.⁷⁸⁹ Thereby, they should choose, use and combine FRM in a way that is sensitive to the epistemological needs of policy analysis for governance for SGF, including (1) the need to observe the discursive nature of policymaking in order to help policymakers account for discursive nature of the SD concept; (2) the need to account for the processes by which policymakers acquire knowledge in order to support them at sustainability mind-shift in the political thinking; (3) and the need to tackle the deeply uncertain nature of global change in order to help policymakers account for it in the SD perspective.⁷⁹⁰ Policy analysts should thus adopt a reflected approach to choice and use of FRM.⁷⁹¹ According to empirical evidence, mainstream policy analysts largely struggle to do so as they are commonly informed by the positivist research logic that fuels an unreflected attitude towards choosing and using FRM.⁷⁹²

⁷⁸⁷ Inayatullah, 1999; 2001.

⁷⁸⁸ See chapter 6.2.

⁷⁸⁹ See chapter 6.1.

⁷⁹⁰ See Table 5.

⁷⁹¹ See chapter 5.2.

⁷⁹² See chapter 5.2.1.

This chapter proposes a research methodological heuristic for SGF that should aid policy analysts to continuously critically reflect and adapt their own research methodological approaches to choosing and using FRM in a way that is sensitive to the epistemological needs of policy analysis for governance for SD. In other words, the heuristic should serve policy analysts to find innovative methodological solutions for choosing and using FRM in a way that is coherent with the epistemological needs of policy analysis for governance for SD.

Heuristic represents a widely acknowledged approach for directing one's attention into learning, discovery, or problem-solving. In this thesis, it is conceived as “die Lehre von den Verfahren, Probleme zu lösen, also für Sacheverhalte empirischer und nicht-empirischer Wissenschaften Beweise und Widerlegungen zu finden.”⁷⁹³ It refers to systematic process to generate scientific knowledge, i.e., to the art and science of discovery and insight. The heuristic for SGF aims at opening new spaces of thinking instead of closing them through normative guidelines. In contrast to algorithm that always assures a clear solution, it remains unsure in terms of the results, while promising new inventions or discoveries.

The design of the research methodological heuristic for SGF is informed by the constructivist learning theory.⁷⁹⁴ The heuristic primarily wants to promote complex and change learning of policy analysts about the methodological requirements of SGF. Policy analysts are expected to gain ‘knowledge in action’⁷⁹⁵ that enables them to act in methodologically reflected way when exercising SGF, i.e., to choose and use FRM in a way that is sensitive to the epistemological needs of policy analysis for governance for SD.

The design of heuristic for SGF thus not only opposes the authoritarian behaviourist type of heuristic that typically focuses on providing the ways and instruments that enable policy analysts to learn the right or wrong methodological habits, and on

⁷⁹³ Lorenz, 1984, cit. in: Hunecke, 2006, pp. 15.

⁷⁹⁴ See Figure 7. See also Baumgartner, 1993a; 1997b; 2001; 2002; 2003; Baumgartner et al., 2000; 2002.

⁷⁹⁵ See also Baumgartner, 1993a; 1997b; 2001; 2002; 2003.

presenting didactic strategies to persuade policy analysts that it is in their own interest to squeeze themselves in the corset of the preconceived methodological and methodical solutions.⁷⁹⁶ Furthermore, the heuristic for SGF differs from the cognitivist type of heuristic that is primarily aimed at identifying the methodological tasks for policy analysts in empirical praxis to solve the predetermined and didactically adjusted, simplified methodological problems.⁷⁹⁷

In order to promote the methodological self-reflexivity of policy analysts when using and choosing FRM in SGF, the heuristic for SGF identifies six methodological strategies or methodological principles.⁷⁹⁸ They include: (1) explorative approach, (2) hermeneutic approach, (3) communications approach, (4) deliberative approach, (5) emancipatory approach and (6) transdisciplinary approach.⁷⁹⁹ These heuristic principles⁸⁰⁰ should serve policy analysts as cognitive help for reflected choice and use of FRM. They represent departing points of methodological self-reflection on the basis of which policy analysts should be able to choose and use FRM in a way that is widely coherent and responsive to the epistemological needs of policy analysis for governance for SD. The research methodological principles not only determine the conditions for quality scientific insight, but also illuminate the aspects of research process that need to be critically accounted for by policy analysts. They should enable policy analysts to identify and solve complex methodological problems that cannot be solved with success by using simple algorithms.

The methodological principles for self-reflected use of FRM in SGF are not set in a normative way, i.e., out of a certain philosophical discussion and tradition. They are developed on the basis of insights about the knowledge gap between governance for SD and policy analysis from the previous chapters. In particular, they draw on the typology of cognitive barriers and challenges of policymakers in terms of perceiving governance

⁷⁹⁶ See Figure 5. See also Baumgartner, 2001.

⁷⁹⁷ See Figure 6.

⁷⁹⁸ Hayer / Wagenaar, 2003.

⁷⁹⁹ The names of the principles are descriptive, i.e., they point toward the praxeology of SGF, instead of pointing towards a specific philosophical theory tradition (e.g. deconstructivist or poststructuralist approach).

⁸⁰⁰ Hunecke, 2006.

in the SD perspective,⁸⁰¹ on the typology of shortcomings of the mainstream theoretical approaches to policy analysis for governance for SD and the resulting epistemological needs to be tackled by policy analysts.⁸⁰² Nevertheless, the heuristic for SGF draws on the analysis of research methodological requirements of policy analysis for governance for SD.⁸⁰³ It is informed by the insights on the central research methodological dilemmas of mainstream policy analysts following the positivist research logic when applying FRM.⁸⁰⁴ Moreover, it draws on the analysis of how policy analysts can profit from the EU policy analysis discourse on the interpretative turn and from the EU Foresight discourse in order to overcome the research methodological dilemmas.⁸⁰⁵

Consequently, the proposed methodological principles for SGF largely stem from the interpretivist discourse that proved to be a promising reference frame for policy analysts aiming to critically reflect their own research logic and habits behind the choice and use of FRM and to overcome the methodological dilemmas due to their positivist research logic.⁸⁰⁶ The heuristic for SGF shows how the shift from quantitative to qualitative methodological approach to choice and use of FRM in SGF can improve the ability of policy analysts to tackle the epistemological needs of policy analysis for governance for SD. Moreover, it sets out how the methodological principles and perspectives from interpretivist methodological discourse demonstrate analytical fertility and practical usefulness for tackling the epistemological needs of policy analysis for governance for SD.

The heuristic attaches great importance to ‘Leitfragen’⁸⁰⁷ as central instruments for cognitive integration of knowledge from different perspectives in the Foresight practice.⁸⁰⁸ Each research methodological principle is operationalised into central methodological ‘Leitfragen’ that need to be considered by policy analysts when aiming

⁸⁰¹ See chapters 2 and 3.

⁸⁰² See chapter 4.

⁸⁰³ See chapter 5.

⁸⁰⁴ See chapter 5.2.

⁸⁰⁵ See chapter 5.3.






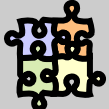
⁸⁰⁶ See chapter 5.2.2.

⁸⁰⁷ Balsinger provides the following definition of ‘Leitfragen’: „Als Leitfragen lassen sich solche Fragen bezeichnen, die zwar bezüglich des Forschungsfeldes interessieren, die aber den genuinen Erkenntnisinteressen der Einzelprojekte übergeordnet sind und dadurch die Arbeiten der Teilprojekte anleiten.“ (Balsinger, 2005, cit. in: Hunecke, 2006, pp. 175).

⁸⁰⁸ Hunecke, 2006, pp. 175.

to implement methodological principles in a SGF exercise. Moreover, the research methodological principles are illustrated with a series of empirical examples of the uses of FRM in the Foresight practice. The examples of applications of FRM in Foresight are not only used to demonstrate how the mainstream positivist approaches to applying FRM limit the capacity of policy analysts to meet the epistemological needs of policy analysis for governance for SD in empirical practice. They are also used to show how these dilemmas can be solved by grounding SGF exercise in the research methodological principles outlined in the heuristic for SGF.

Table 10: Research Methodological Heuristic for Sustainability Governance Foresight

<p>Critical Explorer</p> 	<ul style="list-style-type: none"> • Heuristic Principle: explorative approach to SGF • Yes-Go: Flexible and opened research design, which is adaptive and recursive. • No-Go: Standardised and fixed research design based on ex-ante hypotheses. • Leitfrage: How to choose and use FRM in a way that enables contesting the ex-ante hypotheses in response to new insights during the SGF exercises? • References: grounded theory; experimental approach.
<p>Discoverer of Frame Conflicts</p> 	<ul style="list-style-type: none"> • Heuristic Principle: hermeneutic approach to SGF • Yes-Go: Use of FRM to detect conflicts in framing of policy issues. • No-Go: Use of FRM in a way that is ignorant toward interpretative judgements. • Leitfrage: How to use FRM for reconstructing frames as normative-prescriptive stories which set out policy problems, course of action and basis for persuasion? • References: interpretative approach; reconstructive approach.
<p>Translator Across Discourses</p> 	<ul style="list-style-type: none"> • Heuristic Principle: communications approach to SGF • Yes-Go: Use of FRM to develop refined culturally sensitive frames of policy issues • No-Go: Use of FRM in a way that disregards the discursive practices and hidden forms of communicative power behind them. • Leitfrage: How to use FRM for translating knowledge and narrations into palatable messages across different discourses, i.e., for epistemic translation? • References: argumentative approach, communications approach, discursive approach, policy epistemic approach, dialectical model of policy analysis, critical futures research, layered approach.
<p>Facilitator of Citizen Deliberation</p> 	<ul style="list-style-type: none"> • Heuristic Principle: deliberative approach to SGF • Yes-Go: Use of FRM for facilitating citizen deliberation and bringing to fore the grass roots knowledge at all stages of policymaking and policy inquiry. • No-Go: Use of FRM for collecting judgements of citizenry only to verify policy solutions to predetermined policy problems. • Leitfrage: How to use FRM in a way that enables meaningful participation of all affected actors at all stages of policy inquiry? • References: action approach; grass-roots approach; network research; collaborative research; collaborative policy learning, participatory approach
<p>Honest Broker</p> 	<ul style="list-style-type: none"> • Heuristic Principle: emancipatory approach to SGF • Yes-Go: Use of FRM that enables to sensitise political thinking for conflicts, randomness, signs of breaks and destabilisations in societal transition. • No-Go: Use of FRM for finding invariance, trends and regularities in societal transition in order to create 'false' certainty. • Leitfrage: How to use FRM to deconstruct and challenge the routinized ways of futures thinking, to take a critical gesture toward speech and to create a hypothetical space of intelligent breaking of rules? • References: critical/poststructuralist approach; deconstructivist approach; Befreiungs-Wissen.
<p>Transdisciplinary Knowledge Agent</p> 	<ul style="list-style-type: none"> • Heuristic Principle: integrated approach to SGF • Yes-Go: Use of FRM for integrating specialised knowledge. • No-Go: Use of FRM for finding sufficient cause ('causality principle'). • Leitfrage: How to use FRM in a way that allows for integration of knowledge that is sensitive to different descriptive levels of disciplinary, sectoral and other social discourses? • References: transdisciplinary approach; causal layered methodology.

6.3.1. Explorative Approach: Policy Analyst as Critical Explorer

In order to exercise SGF that is responsive to the epistemological needs of policy analysis for governance for SD,⁸⁰⁹ policy analysts need to adopt explorative approach⁸¹⁰ to choice and use of FRM.⁸¹¹ They need to act as critical explorers who explicitly reflect how to choose and apply FRM in a way that enables them to adopt an opened attitude toward the research object, i.e., to formulate and continuously question, refine and modify their working hypotheses about the research object, their research foci and their choice and use of FRM in response to new data collected during the course of a SGF exercise. Policy analysts should thus continuously adapt their choice and use of FRM to the particularities of the research object. Moreover, they should utilize the insights gained during the course of the SGF exercise to continuously refine the research steps.

Mainstream policy analysts thus need to emancipate themselves from the commonly adopted positivist approach to Foresight that counsels them to choose and use FRM exclusively to falsify or verify the hypotheses about the research object, which are formulated ex-ante, i.e., in a theoretical way before the start of the research inquiry. Consequently, they rely on explorative approach to Foresight to formulate hypotheses about the societal phenomena exclusively at the beginning of the scientific inquiry. Then the ex-ante generated hypotheses are tested by less impressionistic quantitatively proven descriptions of behaviours. Thereby, policy analysts usually rely on a rigorous research plan. In empirical practice, mainstream policy analysts for example typically formulate narrow questions for the first round questionnaire of a Delphi study⁸¹² with multiple choice questions. Such approach hinders policy analysts to account for discursive nature of policymaking, or to recognise and methodologically account for the multi-issue and multidimensional nature of policy problems in empirical reality.

⁸⁰⁹ See Table 5.

⁸¹⁰ Lamnek, 1995a.

⁸¹¹ See Table 10.

⁸¹² Delphi study represents a FRM that “has been used very often across a broad spectrum of topics. It is a principal method of futures research and has found application in planning, decision making, and policy research” (Gordon / Pease, 2006). Delphi study “was developed at the RAND Corporation in the late 1950’s and 1960’s as an effective means for collecting and synthesizing expert judgements. (...) In general, Delphi studies involve feedback of information from one round to the next, including (for numerically answered questions) the average or median of responses, and typically, reasons furnished by participants for holding extreme positions” (Gordon / Pease, 2006). For a discussion of the Delphi study see Linstone/ Turoff, 1975; Gordon, 2003a.

In order to tackle these methodological dilemmas, policy analysts need to become critical explorers. They should follow three interrelated principles.⁸¹³ When using FRM, they should follow the openness principles, i.e., adopt an opened attitude ('Offenheit') toward research persons, situations and methods. They should apply FRM in a way that allows them to stay opened toward the new developments and dimensions of the research object, which they have not accounted for and planed at the beginning of the SGF exercise. Secondly, policy analysts exercising SGF should follow the flexibility principle, i.e., they should assure high responsiveness of research logics and paths on the changed conditions and constellations in empirical praxis. Third, policy analysts should follow the circularity principle, i.e., the Foresight research process should follow the 'hermeneutical circle' as opposed to 'logical circle' that is common to positivist research logics. They should continuously adapt and revise their research plan and methodical apparatus in response to data collected on the research object. They should follow a flexible research plan that is adapted during the course of inquiry in response to newly gained empirical data. Nevertheless, policy analysts exercising SGF should change their expectations about the type of outputs of SGF. They should choose and use FRM in a way that enables them to generate (as opposed to verify) hypotheses about the nature and quality of the research object. Instead of falsifying and confirming the existence of the assumed problems and finding solutions to them, policy analysts need to generate new assumptions about policy problems at the end of the SGF exercise.

For example, when using Delphi study to formulate energy scenarios, policy analysts should first ask experts opened questions the answers to which are not already known and which enable them to make different levels of knowledge and numerous contexts visible. Opened questions leave the participants of Delphi study more room for self-performance and allow policy analysts to uncover influential factors that lie outside the mainstream paradigms. The participants of Delphi study can even be asked to write short essays in which they imagine what the future might be for energy politics. The aim of policy analysts would thereby be to tease out the factors that participants see as significant in the energy future. Then, policy analysts could analyse the empirical data

⁸¹³ Lamnek 1995a; Lamnek 1995b; Bohnsack, 2003.

collected in the first wave of the Delphi study to verify their own theoretical assumptions in the research field and to adapt and refine the further methodical steps in response to the new distinct situational moment. On the basis of this enhanced multi-perspective understanding and knowledge about a policy issue and about the participants' images on the energy futures, policy analysts then could construct a questionnaire for the second wave of the Delphi study, which includes more narrow questions in order to clarify different attitudes. In this way, policy analysts can advance their own understanding of policy issues, and position it in a larger context.

In order to adopt explorative approach, policy analysts exercising SGF should explicitly reflect the following research methodological questions:

- How to emanate the analytical relationships and the interpretations from the empirical life before and during the course of the SGF exercise?
- How to choose and use FRM in a way that enables to contest the ex-ante hypotheses on the basis of new insights gained during the course of the SGF exercise?
- How to take into account new perspectives and move into directions that were not accounted for and planned at the beginning of the SGF exercise?
- How to continuously adapt the methodic apparatus and research plan in response to collected data about the policy issue at stake during the course of the SGF exercise?
- How to use and choose FRM in a way that enables to generate policy problems and theories on the basis of research insights at the end of the SGF exercise?

Policy analysts can draw on a rich body of research methodological literature from the social sciences discourse in order to tackle the above methodological questions. However, while this literature offers a range of research methodological solutions for these questions, it fails to establish an explicit link to Foresight practices. In particular, *grounded theory* offers a valuable reference frame for exercising SGF. It advocates simultaneous involvement of researchers in data collection and analysis in order to construct “analytic codes and categories from data, not from preconceived logically deduced hypotheses, advancing theory development during each step of data collection

and analysis.”⁸¹⁴ In particular, practical guides on grounded theory written by Charmaz and Bryant⁸¹⁵ or by Glaser and Strauss⁸¹⁶ provide valuable insights into the constructivist grounded theory approach that is sensitive to meaning.

Policy analysts striving to act as critical explorers can also draw on the works by Lamnek’s⁸¹⁷ and Bohnsack’s⁸¹⁸ about the qualitative methodology for social research. Grünwald’s⁸¹⁹ *experimental approach* to social research represents another promising reference for tackling explorative approach in the SGF empirical practice. It strives to prevent that policy analysts fall into the trap of ‘self-fulfilling prophecy’, which is characteristic for quantitative research logic commonly informing mainstream policy analysts. The experimental approach is thus aimed at exploring the futures as fluid and discursive entities and at accounting for the impossibility of their prediction.

However, policy analysts can also learn from several empirical examples of explorative approach to choice and use of FRM in the futures field. The *Real-time Delphi study* represents an increasingly popular example of explorative approach to using Delphi study. While “in classical Delphi, the judgments collected in one round are fed back to the participants in subsequent rounds (...) by contrast, Real Time Delphi is roundless and answers generated are fed back to participants in real time.”⁸²⁰ Experts can not only judge once or twice, depending on the number of rounds, as it is typical for the conventional Delphi study. During a Real-Time Delphi, experts can independently reassess their responses as often as they want.”⁸²¹ However, the applicative value of the Real-time Delphi study examples is limited, for they are largely informed by the positivist research logic, i.e., by predictive orientation. Thus they are ignorant toward the interpretative judgments and toward deep uncertainty of global change, which represent the basic epistemological needs of policy analysis for governance for SD.

⁸¹⁴ Charmaz, 2006, pp. 10.

⁸¹⁵ Charmaz, 2000; 2006; Charmaz / Bryant, 2007.

⁸¹⁶ Glaser / Strauss, 1967; 1998.

⁸¹⁷ Lamnek 1995a; Lamnek 1995b.

⁸¹⁸ Bohnsack, 2003.

⁸¹⁹ Grünwald, 2004.

⁸²⁰ <http://www.realtimedelphi.net/>

⁸²¹ Friedewald et al., 2007.

6.3.2. Hermeneutic Approach: Policy Analyst as Discoverer of Frame Conflicts

In order to meet the epistemological needs of policy analysis for governance for SD when exercising SGF,⁸²² policy analysts should adopt hermeneutic approach to choice and use of FRM.⁸²³ Hermeneutic approach is informed by the constructionist assumption that “the definition of a problem and the action taken to solve it largely depend on the view which the individuals or groups that discovered the problem have of the system to which it refers.”⁸²⁴ Accordingly, policy analysts should become discoverers of frame conflicts who choose and use FRM in a way that allows them to reconstruct and compare different logics of the situational context and discover conflicts between different frames⁸²⁵ that shape understandings of policy problems and actions to solve them.

In contrast, mainstream policy analysts tend to use FRM in a way that ignores or sidesteps the subjective dimensions and that treats meanings as manifestations of objective phenomenon⁸²⁶ in order to establish explanations that can stand independently of social meanings. They conceive empirical data as given and objective information, which is in large part self-explanatory and can be understood only in one way. Thus the commonly adopted positivist approach to choice and use of FRM in Foresight is insensitive to the role of social meanings that are inherent to social and political interaction. For example, when using Delphi study to create energy scenarios, mainstream policy analysts typically involve a worldwide panel of experts from different disciplines and sectors. When formulating questionnaires, they typically do not explain the distinct meanings of the terms and vocabulary that they use. Also, they fail to outline the implicit logic behind the questions. This fuels numerous (hidden) misunderstandings among the experts, who – coming from all over the world and having different professions – can understand the terms used in questions such as

⁸²² See Table 5.

⁸²³ See Table 10.

⁸²⁴ Brün, 1971, cit. in Von Foerster, 1979a.

⁸²⁵ Drawing on Yanow (2003), ‘frame’ means the normative-prescriptive stories that set out policy problem, a course of action and a basis for persuasion. For more on ‘frames’ and ‘framing’ see Yanow, 2003; 2007; 2008. Similarly, Goffman (1974, pp. 10-11) defines frames as tacit, hidden principles of organisation which governs the subjective meaning we assign to social events. In accordance, Fischer (2003b, pp. 143) defines framings of issues as guideposts for analysing, knowing, arguing and acting.

⁸²⁶ Fischer, 2003b, pp.151.

‘alternative energy’ or ‘near future’ in different way than policy analysts do. The misunderstandings even increase when the questionnaires are translated into other languages. Moreover, the questionnaires developed by mainstream policy analysts, typically consist of multiple choice questions and questions asking the experts for quantitative estimates of the attributes of the future developments, e.g., of their value, impacts, probabilities or backfire potential without demanding for further explanation and argumentation why. Such narrow questions disable policy analysts to contextualise the empirical data and knowledge collected in relation to what is meant when experts for example claim that a certain energy sector will rise in the next future. They also fail to account for the reasons why experts think that it will. For experts can make the same estimate for different reasons.

Drawing on such Foresight, policymakers discuss the future energy politics in the same terms, however possibly mean completely different things. Hence policymakers would agree and adopt certain energy scenarios as guidance for cooperative efforts to adapt governance for more SD, but have very different understandings of what these energy scenarios mean. Consequently, energy scenarios appearing relatively straightforward would be found to involve different frames (e.g., assumptions and premises) and would not lead to desired effects. Such misunderstandings and misperceptions create hidden barriers to effective policy development and implementation. They fail to provide insight on relevant frame conflicts that occur when different participants focus on different elements of a policy issue and value these elements differently. Such Foresight disregards the discrepancies underlying the actors’ implicit theories. In this way, policy analysts not only fail to provide policymakers with the competence to anticipate reactions of the actors involved in governance and to be empathic of these reactions. It also gives them a false certainty and feeling to know the future(s), what ever type of them it might be.

This above example shows in exemplary way how positivist approach to SGF limits the capacity of policy analysts to account for the epistemological needs of policy analysis for governance for SD. First, positivist SGF disregards the contentious dimensions of policy questions, the intractability of policy debates, the defects of supporting

arguments policy narratives and the political implications of contending prescriptions. By ignoring the discrepancies underlying the parties' implicit theories and perspectives on one and the same issue it fails to distil the variety of reasons and logics on the basis of which policymakers see the future in one way or another. It falls short of outlining what are the narratives and arguments that support their framing of issues (e.g., future energy politics) and who is informed by these narratives. While such Foresight provides policymakers with one or several single-value deterministic images or visions of the coming futures (e.g., energy scenarios), it fails to help policymakers recognise the frames and interests of diverse parties and the related options for building global partnerships. In this way, positivist approach to SGF reduces the ability of policy analysts to account for the discursive nature of policymaking.

In order to tackle these methodological dilemmas, the heuristic for SGF counsels policy analysts to adopt hermeneutic approach to use of the FRM. For example, when using the Delphi study for constructing energy scenarios, policy analysts should apply it to illuminate the logics and meanings behind questions in questionnaires, and to reconstruct how future energy politics is being framed by different participants of the Delphi study and to identify the discrepancies between these framings. Thereby, there are numerous possible methodological solutions to do so. Policy analysts can for example reformulate the questionnaires for the Delphi study in a way that enables to explore the degree “to which interest groups, policy constituencies, scholars working in competing disciplines, and the citizens in the various context of everyday life perceive and structure the energy politics”⁸²⁷ in the future. Instead of asking “do you think that the alternative energies will be important in next 10 years,” policy analysts could ask “why and how do you think that the alternative energy sector will evolve in next ten years?” In order to uncover the policy frames and situational contexts that attribute social meanings to their perceptions of the future of energy politics, questions can be substituted with problem-setting stories that participants of the study are asked to tell about policy situations and that “link causal accounts of policy problems to particular proposals for action and facilitate the normative leap from is to ought.”⁸²⁸ Moreover, policy analysts can ask experts participating at a Delphi study to fulfil personal profiles

⁸²⁷ Fischer, 2003b, pp. 143.

⁸²⁸ Fischer, 1993, pp. 143.

in which they provide data on their profession, disciplinary background, location of living and working and other information prior to answering questions. In this way, policy analysts can better track the differences in vocabulary used by experts and their own vocabulary and critically reflect the meaning of and the reasons for the estimates of experts. They can better examine and interpret how policy issues are being conceptualized or framed by experts; how they are selected, organized, and interpreted to make sense of a complex reality; and how does this influence the participants' estimates about the future energy politics.

These examples show that the methodological shift from positivist to hermeneutic approach to choice and use of FRM in SGF can importantly increase the competence of policy analysts to meet the newly emerged epistemological needs of policy analysis for governance for SD. Hermeneutic principle advocates the choice and use of FRM in a way that makes the assumptions behind the study and the construction of alternative futures visible and that allows policy analysts to deconstructs how beliefs and expectations, i.e., the way that policymakers see the world, shapes and changes the world we live in. Hermeneutic approach to SGF thus allows policy analysts to account for discursive, fluid, socially constructed and highly interdependent nature of policymaking. It shifts the focus away from the instrumental behaviour that is based on values such as costs, benefits, and feelings towards the broader subjective meanings, motives or purposes behind the events, actions and other texts. Hence hermeneutic approach to SGF enables policy analysts to explicitly account for the role of values, interests and language when interpreting different framings of social reality. Such SGF promotes the inter-subjective understanding of futures alternatives that is crucial for building governance for development and implementation of policies that promote SD.⁸²⁹ It promotes better communication and understanding between policymakers and makes joint activity possible. It enables policymakers to avoid misunderstandings and misperceptions, which are particularly common in governance context that is characterised by high heterogeneity of actors.

⁸²⁹ Hoffman, 1995.

Secondly, hermeneutic approach to SGF allows policy analysts to account for deep uncertainty of global change. The exploration of global change is always characterised by a lot of interpretation by policy experts, who in face of deep uncertainty of global change rather connect the existing empirical data with social theories than provide new empirical data per se. Hermeneutic approach to choice and use FRM in SGF enables policy analysts to explicitly account for the interpretative, i.e., perspective-dependent nature of knowledge and data collected about the futures. It allows them to use FRM in a way that is sensitive to implicit assumptions that inform the judgements about the possible, probable and preferable futures. Thus hermeneutic approach allows them to consciously account for the mind-set of actors relevant to the policy issue and for the state of discourse on the future as opposed for the future itself. It enables them to understand how the policy issues in question are conceptualized or framed by the parties to debate, how they are selected, organized, and interpreted to make sense of a complex reality.⁸³⁰ In this way, it increases the ability of policy analysts to promote the anticipatory and strategic power of policymakers as it enables them to determine the conflicting framings of the world that cause different and opposing courses of action concerning what is to be done, by whom, and how even when policymakers may agree on the common goals.

Nevertheless, by allowing policy analysts to consciously and critically account for social construction of policy problems, hermeneutic approach to SGF enables them to promote complex policy learning. When following hermeneutic approach to SGF, policy analysts use FRM to reconstruct frames, i.e., normative-prescriptive stories that set out policy problem and a course of action to be taken to address the problem.⁸³¹ Such SGF allows policymakers to reconstruct differences between frames that provide coherence, a direction for action and a basis for persuasion. It allows them to critically reflect the frames that they and other policymakers will consider the facts to be and how these lead to normative prescriptions for action. It enables policymakers to compare different perspectives for dealing with a problem, as well as to recognise how frames change the problem, and to critically reflect the way how they employ frames to

⁸³⁰ Cf. Fischer, 2003a.

⁸³¹ Yanow, 2003.

perceive problems, manage preferences, formulate solutions, settle disputes, and come to compromises.

In order to adopt hermeneutic approach and become discoverers of frame conflicts when exercising SGF, policy analysts in particular need to explicitly reflect how to choose and use FRM in a way that enables them:

- to account for different meanings and understandings of policy issues and tease out the logic of the situational context?
- to grasp the meaning or significance of contemporary problems as they are experienced by policymakers and other relevant stakeholders?
- to develop futures visions that enable to illuminate the different ways that arguments about the ways policies and problems move across different disciplines and discourses?
- to explore deeper processes of meaning-making, paradigm formation and the active influence of obscured worldview commitments?
- to reconstruct the alternative ways of thinking and perceiving futures and to recognise the existence of alternative world views and images of the future across cultural space and time?
- to account for discrepancies between the tacit hidden frames of policy analysts and the frames which govern the subjective meaning that policymakers assign to social events?
- to reconstruct and communicate the relevant frames that serve the actors involved in governance for SD as guideposts for analysing, knowing, arguing and acting or as normative-prescriptive stories that set out policy problems and the course of action to be taken in order to address policy problems?
- to gain an insight on distinct framings and meaning of the main terms and topics of interest across cultural space and tie and to articulate them to policymakers?
- to outline the frames providing policymakers with the direction for action, the basis for persuasion and the framework for the collection and analysis of data?

- to illuminate frames that determine what actors involved in governance for SD consider as the ‘facts’ and how these facts lead to normative prescriptions and futures images for action?
- to compare different perspectives for dealing with a problem, i.e., to recognise how the frames change the problem?
- to study the ways how different political actors employ frames to perceive problems, manage preferences, formulate solutions, settle disputes, and come to compromises?

Hermeneutic approach to choice and use of FRM in SGF demands high creativity of policy analysts when searching for the new ways to use FRM that enable them to account for the framing and logics behind the policy discourse in order to tackle the epistemological needs of policy analysis for governance for SD. Finding individual methodical solutions in empirical praxis may represent one of the biggest challenges to be met by policy analysts who aim to adopt hermeneutic approach to use and choice of FRM in SGF. Thereby, policy analysts can draw on extensive literature about hermeneutic approach that has received great attention in several discourses.

Within the science theory and methodological discourse, policy analysts can, among others, draw on works on reconstructive approach to empirical research by scholars such as Bohnsack⁸³² and Grünwald.⁸³³ Within the policy analysis discourse, hermeneutic approach represents an increasingly popular methodological approach to overcome the methodological dilemma of positivist policy analysis research that is ignorant approach to the role of values, interests and language. In particular, policy analysts can draw on discussions about *interpretative policy analysis*⁸³⁴ that focuses on analysis of meaning and symbolism in policy-related interaction, and that strives for “enhanced appreciation of the variety of meanings within the policy process, the multiple ‘realities’ that people brought to the situation, and the ways in which power was systematically facilitating the representation of same insights at the cost of others.”

835

⁸³² Bohnsack, 2003.

⁸³³ Grünwald, 2004.

⁸³⁴ Finlayson, 2004a; 2004b; Bevir / Rhodes, 2004a; 2004b; Dowding, 2004; Hay, 2004; Yanow, 2002; 2006; 2007. For more see chapter 5.2.2.

⁸³⁵ Wagenaar, 2003b.

Policy analysts can also profit from discussions on the *contextualised approach* to policy analysis proposed Torgerson⁸³⁶ on the basis of the Lasswell work on contextual orientation in policy analysis. The approach stands for continuous examination of the logics of the situational context that defines and shapes the understandings of policy problems.⁸³⁷

Nevertheless, hermeneutic approach to use and choice of FRM for policy advice has also been widely perceived as an alternative methodical solution inside the futures field. Mannermaa⁸³⁸ for example considers hermeneutic interest of knowledge as one of three central interests of knowledge in futures studies that is aimed at “better communication and understanding between people in order to make joint activity possible”⁸³⁹ and “creating subjective understanding of social reality.”⁸⁴⁰ Furthermore, also Inayatullah⁸⁴¹ and a camp of colleagues in the Department of Political Science at the University of Hawaii advocate the interpretative school of futures research that focuses on creating shared discourses, authentic meaning and conversation. However, the level of empirical Foresight research that is based on the interpretative or hermeneutic methodological approach remains low.

6.3.3. Communications Approach: Policy Analyst as Translator Across Discourses

Mainstream policy analysts need to adopt the communications approach to choice and use of FRM in order to create quality SGF.⁸⁴² So as to tackle the epistemological needs of policy analysis for governance for SD,⁸⁴³ they need to become translators across discourses who choose and use FRM in a way that allows them to do ‘epistemic translation’,⁸⁴⁴ i.e., to help policymakers translate knowledge and narrations into policy

⁸³⁶ Torgerson, 1985; 1986.

⁸³⁷ Torgerson, 1985.

⁸³⁸ Mannermaa, 2000.

⁸³⁹ Mannermaa, 2000, pp. 3.

⁸⁴⁰ Mannermaa, 2000, pp. 3.

⁸⁴¹ Inayatullah, 1992; 1999; 2001.

⁸⁴² See Table 10.

⁸⁴³ See Table 5.

⁸⁴⁴ Fischer, 2003, pp. 232.

arguments and at communicating these as palatable messages across different discourses, i.e., for consumption by a variety of groups and interpretative communities. They should use FRM to create SGF that allows policymakers to cling into the existing and future discourses and communicate their interests across different discourses in form of inclusive policy arguments. In order to do so, policy analysts should explicitly reflect how to choose and use FRM in a way that allows them to examine how arguments and debates constitute and shape the various policy networks or 'policy communities', i.e., who are the participants of these communities, what rhetoric they use, how do their members communicate across differences etc. Moreover, they should use FRM in a way that promotes consensual reframing of policy issues that can generate new capacity-giving consensus for action, which transcends the submission to arguments or frames of powerful actors.⁸⁴⁵

In contrast, mainstream policy analysts following the positivist research logics typically use FRM to elaborate narratives and visions about the future (e.g., different scenarios) in a way that leaves the worldviews, ideologies, discourses archetypes, myth and metaphors unpacked. For example, when generating energy scenarios, mainstream policy analysts use FRM in a way that allows them to generate two types of scenarios: (1) scenarios at the litany level, i.e. at the level of describing the quantitative trends, problems without questioning assumptions beneath them, and (2) scenarios at the systematic level that are concerned with social causes and questioning data, however without contesting the paradigm in which the issue is framed. The litany and system type scenarios disregard how the worldviews and discourses that inform the narrations about the future frame an issue. Furthermore, mainstream policy analysts following positivist approach to Foresight typically communicate these energy scenarios in the form of reports that fail to illuminate, how certain worldviews and myths in themselves constitute both the problems and the solutions.⁸⁴⁶ Worldviews and epistemological positions underneath these scenarios remain unreflected and disregarded. Mainstream policy analysts present scenarios as if they would spoke for themselves, without

⁸⁴⁵ Cf. Fischer, 2003.

⁸⁴⁶ Cf. Inayatullah, 2001.

accounting for the 'epistemological gap'⁸⁴⁷ between them, the policy experts (e.g., policymakers, scientists) and the citizens and without considering the relationship between the policy science and political deliberation.

The above example shows that positivist approach to SGF severely limits the ability of policy analysts to account for the epistemological needs of policy analysis for governance for SD. The unreflected epistemological gap between the policy analysts, policy experts (policymakers, scientists) and the citizens leads to non-functioning communication and lacking cooperation, cooperation and joint action, to different interpretations of the collected data, to lacking time-information coordination (e.g., false information at the right time, or right information, but too late), to lacking effective implementation of information in (knowledge) practices, and to lacking communication, including limited transmission of implicit knowledge between the actors involved and informed by one and the same SGF exercise.

In order to tackle these shortcomings, policy analysts should adopt communications approach to choice and use of FRM when exercising SGF. They should use FRM in a way that enables the emergence of a climate, within which adversarial networks can reframe a policy issue by “renaming the policy terrain, reconstructing interpretations of how things got to be as they are and proposing what can be done about them in a way for all groups to sit down at the same table.”⁸⁴⁸

For example, policy analysts can decide to rely on the CLA⁸⁴⁹ before formulating energy scenarios in order to define and articulate constitutive discourses on the energy issue and to identify and create potential areas of consensus that moves beyond the mere competing policy-analytical frames or policy arguments. The four-level schema of the CLA can be used to situate data and statements uttered by participants of the Delphi study. Thereby, policy analysts can analyse the statements of participants in two steps.

⁸⁴⁷ The term 'epistemological gap' stands for the difference between the epistemological frame of the policy expert and the rest of society (Fischer, 2003b). It is closely related with the term 'hermeneutic difference' that refers to the difference between the initial and the enhanced understanding of the text (Lamnek, 1995a).

⁸⁴⁸ Fischer, 2003b, pp. 146.

⁸⁴⁹ CLA is a FRM developed by Inayatullah with the aim to capture the multilevel discourse and its power for future-oriented policy argumentations. For more see Inayatullah, 2001a; 2002a; 2003; chapter 6.3.6.

First, they can search for problem-oriented and solution-oriented statements, i.e., the litany and the system type statements, both addressing the first order reality. Then, policy analysts can continue with the search for statements, which implicitly or explicitly reflect deeper, generally non-negotiable worldviews or myths that confirm or challenge the first order assumptions about the policy problems and solutions related to global energy politics. Hence they can focus on determining, how different discourses and futures visions inform the litany and systems type statements. In this way, policy analysts can, on the one hand, identify the interpretative communities, which share the same worldview or are informed by the same myths. They can distinguish different highly heterogeneous types of epistemic communities and discourse coalitions ranging from scientific, policy and public citizenry discourse coalitions. In this way, policy analysts can systematically examine how arguments and debates constitute and shape the various policy networks or 'policy communities'. They can for example distinguish the statements that exhibit neoliberal, keynsianist or political economy worldview of economy experts and politicians on energy politics. On the other hand, by drawing on the CLA, they can explore the interplay between specific statements of participants of Delphi study and their background worldviews and myths and illuminate the ways in which differences between the interpretative communities become disputes.⁸⁵⁰

In order to act as translators across discourses when exercising SGF, policy analysts can also use the CLA to systematically formulate different worldview scenarios on the basis of the litany- or system-type statements from the Delphi study, which are coherent with a particular worldview. Besides providing policymakers with the 'first order knowledge',⁸⁵¹ policy analysts can instruct them "about how the knowledge in scenarios is to be interpreted and where its limits lie."⁸⁵² By formulating worldview scenarios, policy analysts can critically illuminate the meta-dimensions of scenarios, including the (1) normative premises, (2) cognitive propositions, (3) the limits of systems observed, (4) relevance judgements made, (5) knowledge of the epistemological limitations of knowledge of the first order and (6) knowledge of inherent uncertainties. Furthermore, the worldview scenarios can help the policymakers and other stakeholders to critically

⁸⁵⁰ Inayatullah, 2001a; 2002a; 2003.

⁸⁵¹ Luhmann, 1984.

⁸⁵² Grunwald, 2004, pp. 164.

reflect their own discursive practices and hidden forms of communicative power behind their visions. In other words, they can help them investigate how the discourse they used to understand is complicit in their framing of the policy issue. That would enable them to examine the internal coherency between their arguments and different narrations and their worldviews.⁸⁵³

Policy analysts can profit in several ways from communications approach to choice and use of FRM in SGF. First, communications approach to SGF allows policy analysts to promote complex learning. The reliance on SGF based on communications approach enables policymakers to systematically formulate policy argumentations about energy politics, which are highly responsive to different framings of energy policy in the governance discourse. Such SGF allows policymakers to create political arguments with the greatest possible internal coherence and with the closest fit to an ever-changing environment. In this way, policymakers are able to gear their arguments closely to real-world and ordinary-language.

Secondly, the adoption of communications approach to the choice and use of FRM enables policy analysts to account for the increasing pace and complexity of global change, when designing policy advice on sustainability governance. As communications approach enables policy analysts and policymakers to know their enemies in worldview, it promotes their anticipatory competence and capacity for strategic communication and helps them formulate dynamic argumentations, which are responsive to contemporary global change. In particular, policy analysts following communications approach to SGF have the capacity to help policymakers account for global change in the SD perspective. Among others, they can help them to tackle the long-term nature of global change. By moving from analysing the systemic and litany level of social reality ('first order reality'⁸⁵⁴) to uncovering the meta-discourses and the mindsets behind these first order perceptions of reality, policy analysts also move from exploring short- to exploring long-term temporality. This is because the temporal dimension of inquiries, including data analysis and interpretation in form of scenarios, expands from immediate focus of litany type statements and historical focus of systemic statements to longer-

⁸⁵³ Inayatullah, 2001a; 2002a; 2003.

⁸⁵⁴ Luhmann, 1984.

term focus of paradigm and worldview statements.⁸⁵⁵ Moreover, policy analysts can better help policymakers account for the multi-dimensional nature of global change. The worldview scenarios enable and facilitate a more complex framing of policy problems than the litany or system type scenarios. Due to increased complexity of policy issues also the solutions are more complex and holistic. Policy analysts following communications approach to SGF can also better support policymakers in making the mind-shift, i.e., the worldview and identity shift in their political thinking and action. Communications approach to use of FRM enables to design the 'layered action steps'. Hence it enables policy analysts not only to define the litany and systemic types of action steps (e.g., energy rationing or management), but also some longer term action steps (e.g., changing consumption patterns, rethinking relationship between industry and energy) and very long term (e.g., rethinking energy, biology, natural resources).

Third, communications approach to SGF allows policy analysts to account for the discursive, pluralist nature of policymaking. Policymakers relying on such SGF can better recognise the (potential) frame and worldview conflicts and increase their communicative competence. They can improve their policy argumentation, i.e., reframe the issue and policy arguments in a way that is sensitive to the rhetoric of other interpretative communities relevant to policy issue. Thus such SGF promotes the capacity of policymakers to communicate across multiple discourses, to harmonize interests and create a common basis for collaborative action on global scale.

In order to act as translators across discourses, policy analysis in particular need to reflect how to choose and use FRM in a way that:

- allows for epistemic translation of results of the studies into palatable messages or policy arguments for consumption across the differing interpretative communities in a way that open up possibilities for consensus?
- enables to explicitly account for the epistemological gaps between the actors, translate the future policy narratives into the languages of political settings and frame them in response to the living worlds of the addressees?

⁸⁵⁵ Inayatullah, 2001a; 2002a; 2003.

- allows to create links between the language of their arguments and the language of political setting in order to mobilise collaborative policy action?
- to consensually reframe the futures so as to generate new capacity-giving consensus for action which transcends the submission to arguments or frames of powerful actors?

Finding research methodological solutions to these questions when exercising SGF represents a major challenge for policy analysts. Thereby, policy analysts can rely on an extensive body of literature. First, policy analysts can rely on works about the derivatives of the interpretative policy analysis that emerged after the 'argumentative turn'.⁸⁵⁶ These derivatives include several approaches that share the common interest in examining, how policy deliberations work and how policy arguments can be compelling in ways that can potentially generate new capacity-giving consensus, including the *argumentative approach*, the *discursive approach*, the *policy epistemic approach* and the *dialectical model of policy analysis*. All these approaches are inspired in one way or another by the theoretical concepts behind the argumentative turn, including by the rhetoric and communications theory, the British language analysis, the French poststructuralism and by the Frankfurt school of critical social theory.

However, the argumentative turn was also perceived in the futures research field. Thereby, policy analysts striving to tackle communications approach to choice and use of FRM can in particular draw on body of works on *critical futures research*⁸⁵⁷ and on the *layered approach*⁸⁵⁸ to use of FRM. However, there is still a lack of FRM and examples of Foresight, which would be informed by communications approach.

⁸⁵⁶ Cf. Finlayson, 2004a; 2004b; Fischer, 1993; 2003a; 2003b; Fischer / Forester, 1993; Gottweis, 2003a; 2003b; Héritier, 1993; Yanow, 1993; 2000; 2003; 2006; 2007; Yanow / Schwartz-Shea, 2006.

⁸⁵⁷ Slaughter, 1984; Slaughter, 1995; Slaughter, 1997; Slaughter, 1999; Slaughter 2001; Slaughter 2001a; Slaughter / Inayatullah, 2003. Inayatullah, 1999.

⁸⁵⁸ Inayatullah, 2001a; 2002a; 2003.

6.3.4. Deliberative Approach: Policy Analyst as Facilitator of Citizen Deliberation

In order to tackle the epistemological needs of policy analysis for governance for SD,⁸⁵⁹ policy analysts need to adopt deliberative approach to choice and use of FRM in SGF.⁸⁶⁰ When conducting SGF, policy analysts thus should become facilitators of citizen deliberation, in which the citizens get an active cognitive function throughout the research process, i.e., they actively contribute to all phases of the research process. Thus policy analysts should choose and use FRM in a way that allows them to democratise the dialogue between policy experts (e.g., policy analysts, policymakers, other scientists) and the everyday citizens. Thus they should apply FRM in SGF to bring to fore grass-roots knowledge and promotes the democratic legitimisation of policy formulation, decision-making and policy action. They should use them to reinforce the capacity building of the everyday citizens and give them opportunity to actively participate at framing and solving the policy problems. Policy analysts, therefore, have to adopt reflected attitude toward their nearness or distance to research praxis and explicitly reflect how to choose and use FRM in a way that enables them to exchange their views and observations with the everyday society.

Deliberative approach is informed by the methodological assumption that the scientific truth relies on the social consensus and not on correspondence with the objective reality. It represents a methodological correlate to the idea of forming transnational intelligence of problem solution in frame of the third transformation of democracy,⁸⁶¹ in which the national governments are in concurrence with other actors inside governance, including civil society. Deliberative approach to SGF counsels policy analysts to question the traditional hierarchic understanding of relationships between policy experts (e.g., policy analysts, policymakers) and the citizenry, and instead establish an egalitarian participatory relationship. It stands for an approach to choice and use of FRM in SGF that enables policy analysts to radically reduce the social distance between the policy experts and the specialised citizens. It demands from policy analysts to use FRM in a

⁸⁵⁹ See Table 5.

⁸⁶⁰ See Table 10.

⁸⁶¹ Fischer, 2003a; 2003b.

way that promotes the straightforward active participation of the citizenry in all phases of SGF - from problem definition to Foresight dissemination - as a standard solution. Moreover, it calls for the necessity to use FRM in SGF in a way that informs the citizenry about the bases of government policies.⁸⁶² In order to act as facilitators of citizen deliberation, policy analysts should thus choose and use FRM in SGF to organise and coordinate collaborative dialogue, which would enable a broad range actors involved with a policy issue (e.g., policy experts as well as the citizens) a conversation with their policy situation that might eventually lead to their frame reflection, to shifts in framing policy issues and to policy change. Hence policy analysts should choose and use FRM to promote the policymakers' willingness to look at future policy issues from the citizens' perspectives and take cognitive risk coupled with their openness to the uncertainty associated with frame conflicts.

Deliberative approach to use of FRM in many ways differs from the commonly adopted participatory approach to Foresight that is informed by the quantitative research logic. When conducting participatory Foresight, mainstream policy analysts typically rely on a range of participatory methods to collect the judgements of citizenry. However, when they turn to the citizens, they do so only to confirm or falsify the already existing policy theses and policy solutions about the predefined policy problems. Hence they involve the citizens only to verify data analysis, but not in the phase of problem definition. Furthermore, when interpreting data and disseminating Foresight, they typically formulate expert advisory reports that are meant only for clearly identifiable elite of policymakers, while neglecting the necessity to inform, empower and educate the citizenry. Deliberative approach thus severely differs from participatory approach to Foresight that is characterised by the use of FRM to promote 'non-cognitive participation'⁸⁶³ of the citizenry (i.e., participation has a 'Türöffnerfunktion') or the 'informative participation' (i.e., bodies of knowledge of the citizenry are collected, without giving the citizens an active cognitive function throughout the research process).

⁸⁶² Cf. Fischer, 1993; Hajer / Wagenaar, 2003.

⁸⁶³ Hunecke, 2006.

This positivist attitude toward the participatory research is based on the technobureaucratic and elitist notion of scientific knowledge and on the hierarchic understanding of the relationship between policy experts (e.g. policy analysts, policymakers, scientists) and the everyday citizens. Mainstream policy analysts involved in Foresight practices thereby tend to see themselves in the role of the ‘philosophischer König’⁸⁶⁴. Consequently, they exercise Foresight as a ‘Steuerungsform von oben’,⁸⁶⁵ for they assume that they can possess the absolute, certain and value-free scientific knowledge about policy issues. Similarly, policymakers as the contractors and the main recipients of Foresight typically expect that policy analysts provide them with the absolute knowledge. These beliefs are informed by the methodological assumption that the scientific truth is based on the correspondence with an objective reality that only needs to be discovered.⁸⁶⁶ Thus mainstream policy analysts fail to choose and use FRM in a way that would enable them to design Foresight process as an interactive process between the policy experts and the citizenry. When exercising Foresight, they are instead primarily concerned how to choose and use FRM in way that enables them to theoretically justify the political decisions of policymakers for political debate and to organisationally accomplish these.⁸⁶⁷

For example, when conducting Delphi study to formulate energy scenarios, policy analysts who are informed by the quantitative research logic typically invite exclusively those policy experts to participate who are acknowledged inside the mainstream scientific community for their scientific expertise. They typically exclude the everyday or specialised citizens from the Delphi study, although they will be severely influenced by the policy measures. Instead, policy analysts tend to collect the citizens’ comments after the scenarios have already been formulated for example in ‘citizen panels’ or ‘lay panels’ in the frame of local scenario workshops. Thereby, the citizens are confronted with a range of scenarios that policy analysts formulate prior to scenario workshops. These scenarios can take a wide range of forms, including for example the possible, the feasible, the desired, the worst and the best case scenario etc. After the presentation of

⁸⁶⁴ Steinert, 1998; Lösch, 2005.

⁸⁶⁵ Steinert, 1998.

⁸⁶⁶ Héritier, 1993a; 1993b.

⁸⁶⁷ Fischer, 1993.

these scenarios, citizen panels are typically asked to cross-examine the policy analysts and then retire in order to deliberate on exchanges and prepare a consensus report, in which they are expected to elaborate a common vision of the future energy politics in their region or district by referring to the themes of the workshop and by using the scenarios as point of reference. In the consensus report, the citizens panels are typically asked to consider all of the issues that bear on the topic of future energy politics at the local level. Their report should reflect their interests and their concerns. Finally, the citizens panels are asked to generate ideas on possible solutions in sense of ‘what must be done’ and ‘by whome’ in order to achieve the future hoped for in the common vision. They are also often asked to outline, where they see the central obstacles to realising the common vision and what thought have they given to ways of breaking down the barriers and making the best possible use of the potential. Typically, consensus reports of the citizen panels are disseminated to the general public attention as an annex to the reports on energy scenarios that are meant exclusively for the elite of policymakers. Mainstream policy analysts thus ignore the necessity to disseminate the scenarios to the citizens who, in deliberative democracy view, decisively influence the solving of policy problems, such as for example the global energy supply problem.

This example shows that positivist approach to using FRM in participatory SGF severely limits the capacity of policy analysts to account for the epistemological needs of policy analysis for governance for SD. Mainstream policy analysts largely fall short of bringing the citizens, who increasingly gain power in frame of global governance, and their preferences to bear more directly on policy decisions. It deprives the citizenry from the essential condition of self-development and personal responsibility. The positivist tendencies behind mainstream policy analysts’ choice and use of FRM for participatory Foresight thus cause their failure to empower the citizens and provide them with self-help strategies to tackle the societal challenges.

The heuristic for SGF advocates the necessity to adopt deliberative approach to choice and use of FRM in order to solve this dilemma. For example, policy analysts exercising SGF to create energy scenarios could decide to move beyond the focus on collecting merely the judgements of acknowledged experts in the frame of Delphi study.

Moreover, policy analysts could organise citizen panels to stimulate a broad debate and to bring the lay voices on future energy politics early in the SGF exercise, i.e., before and in the process of formulating the scenarios. Thereby, the citizens could be asked how they view the prospects, where do they see the obstacles to realising their vision and what thought have they given to ways of breaking down the barriers and making the best possible use of the potential. Moreover, they could be asked to seek the kinds of information that they find necessary to better answer these questions concerning the future energy policy challenges. In continuation, policy analysts would use these empirical data to review their research design and research questions in SGF and assemble additional information in order to better account for the concerns of the citizens when formulating energy scenarios.

The methodological shift of policy analysts from quantitative to deliberative approach to choice and use of FRM has several epistemological benefits for SGF. First, deliberative approach allows policy analysts to better tackle the deep uncertainty of global change. In particular, it enables them to help policymakers to better capture the intensive nature of global change, i.e., the rise of political skills, capacities and responsibility of individuals and the alteration of their horizons of identification in patterns of global life. Deliberative approach to SGF also allows policy analysts to help policymakers raise the individual awareness of future problems within the broader community, to fuel the new individual personal responsibility of the citizens and to serve the interests of those with little but relevant power in governance. Moreover, deliberative approach to SGF enables policy analysts to better support policymakers at accounting for the multi-party nature of global change, for it allows for discussion with different social groups about the obstacles on the way to move towards sustainable futures, and for identification and discussion of the differences and similarities of problems and solutions as perceived by different groups of citizens. It also enables policy analysts to help policymakers account for and examine the frammegrative dynamics of global energy (politics) change, which is characterised by contrasting simultaneous and interactive forces toward integration and frammegration, i.e., by simultaneous emergence of politics at all levels of community. Nevertheless, policy analysts can better promote complex policy learning of policymakers, as deliberative

approach to SGF allows them to help policymakers to collaboratively and critically generate policy problems and work out policy solutions from multiple perspectives, including the grass-roots perspective.

In order to become facilitators of citizen deliberation when exercising SGF, policy analysts need to critically reflect several research methodological questions, including how to choose and use FRM:

- to support meaningful direct and active participation of actors that are affected by policymaking in all phases of policy process from policy formulation to policy evaluation?
- to involve the citizens at all stages of policymaking, from problem definition to policy dissemination and to inform all relevant stakeholders about the bases of the governance processes?
- to develop forums to promote and facilitate collaborative reflection and generation of policy problems and development of policy solutions from the grass-roots perspective?
- to establish arenas, which would enable policy experts and the citizens to involve in intensive dialogue on policy situation that might eventually lead to reframing issues in a way that promotes broad consensus on the futures and on the necessary collective action?
- to capture the intensive nature of global change (i.e., the rising of political skills, capacities and responsibility of individuals, the altering of their horizons of identification in patterns of global life, their increasing power)?
- to raise the individual awareness of future problems among the citizens, which fuels their individual personal responsibility?

In order to tackle these research methodological questions, policy analysts can draw on an extensive body of methodological literature. First, they can draw on the policy analysis discourse on *deliberative approach*⁸⁶⁸ emphasising the importance of citizen participation and of local knowledge to correct the ‘bias’, the unrecognised blinders of

⁸⁶⁸ Fischer, 1993; 2003b; Wagenaar, 2003b; Wagenaar / Cook, 2003; Yanow, 2003; Hajer / Wagenaar, 2003; H  ritier, 1993.

rationalist policy analysis. Deliberative approach is thereby discussed as a new type of participatory policy analysis, which builds on the strength of the interpretive scholarship but brings it further by connecting policy analysis to the issue of democracy and more in particular deliberative democracy.⁸⁶⁹

Moreover, policy analysts can draw on the literature about *participatory policy analysis* within the broader interpretivist policy analysis discourse. The participatory approach to policy analysis represents a symptom of the plead for democratisation of policy analysis, which is drawing on the Habermas', Pateman's and Barber's works on participatory democracy on one hand and on the methodological discussions on post-positivism on the other.⁸⁷⁰ Fischer⁸⁷¹ thereby points out that the first attempts to develop participatory practices in interpretative policy analysis first took place in the third world in the frame of alternative social movements dealing with difficult and wicked problems such as environmental problems.

Deliberative approach to policy analysis is also closely related with several other well-known semi-derivates of the participatory policy analysis that are discussed inside the interpretivist policy analytic discourse and that thus represent promising reference frames for policy analysts aiming to become facilitators of citizen deliberation. They include the *grass-roots approach*, the *network approach* and the *collaborative approach* as well as the *collaborative* and *participatory policy learning*. Also the discourse on the *action approach*, which represents an earlier version of participatory approach, can be beneficial in coming to terms with the above methodological questions. In fact, the participatory approach to policy analysis represents a progressive version of action approach that is better known from the management sciences discourse. Action approach is characterised by horizontal and practice-near perspective ('horizontale und praxisnahe Perspektive'), by scientific reflection at the level of everyday society ('auf der Augenhöhe der Alltagsgesellschaft') and by the focus on knowledge communication

⁸⁶⁹ Wagenaar, 2003b.

⁸⁷⁰ H  ritier, 1993.

⁸⁷¹ Fischer, 2003a.

(‘Kommunizierbarkeit’) to the everyday society, i.e., the necessity of exchangeability, reachability and addressability of their observations with the everyday society.⁸⁷²

Nevertheless, policy analysts striving to become facilitators of citizen deliberation can also profit from the *research methodological heuristic for social ecology research* developed by Hunecke⁸⁷³ who identifies several cognitive operations behind the participatory approach to socio-ecological research. Hunecke argues that participation represents a central cognitive function, which needs to be explicitly accounted for and implemented in all phases of research process, reaching from problem formulation to evaluation of developed solution strategies. In his view, participation primarily serves to contextualise scientific insights through inclusion of science external actors. He calls for participation of all affected actors, who can take part in the participation processes either as representatives of different societal interest groups (stakeholders) or as individuals with specific living worlds. Hunecke⁸⁷⁴ argues that the affected actors need to have the status of experts of a specific living world, who act on an equal footing as scientific experts. Drawing on Mogalle,⁸⁷⁵ Hunecke⁸⁷⁶ also points out several benefits of participative approach for social research, including (1) account for living worlds and worldviews of all affected, (2) higher understanding and acceptance among actors of scientific knowledge, (3) information, control and revision possibilities for decision makers, (4) better identification of practical utility of research, (5) elaboration of context network between science and practice and development of mutual learning processes.

6.3.5. Emancipatory Approach: Policy Analyst as Honest Broker

So as to conduct SGF that is sensitive to the epistemological needs of policy analysis for governance for SD,⁸⁷⁷ policy analysts need to adopt emancipatory approach⁸⁷⁸ to choice and use of FRM in SGF.⁸⁷⁹ They have to become honest brokers, who explicitly reflect,

⁸⁷² Hunecke, 2006.

⁸⁷³ Hunecke, 2006.

⁸⁷⁴ Hunecke, 2006.

⁸⁷⁵ Mogalle, 2001.

⁸⁷⁶ Hunecke, 2006.

⁸⁷⁷ See Table 5.

⁸⁷⁸ Angermüller, 2005.

⁸⁷⁹ See Table 10.

what FRM-s to choose and how to apply them in order to (1) account for the signs of breaks and destabilisation and for the technological innovations as inherent features of the societal development, (2) to create a theoretical basis for the search of deviating alternatives and for securing the space of new ideas, and (3) to criticise the dominant beliefs so as to promote the ability of policymakers and the citizens to free themselves from the old ways of thought on the future and create new ideas that allow to make their own futures, i.e. transform impossible into possible.⁸⁸⁰

In contrast, mainstream policy analysts following the quantitative research logics largely tend to base their choice and use of FRM for designing policy advice on the regularity principle.⁸⁸¹ This means that they choose and use FRM to find and illuminate invariances, regularities and rules in the social development. These invariant rules are then used to predict the (alternative) future(s). The use of FRM on the basis of regularity principle is informed by the desire of policy analysts to forecast different probable futures in order to enable the policymakers to make plans and perform activities fitted into the desired future as perfectly as possible. The regulatory principle fuels the passivity of policy analysts toward the future in the sense that they see the future as a new yesterday.⁸⁸² In consequence, mainstream policy analysts following positivist approach to Foresight use FRM to construct scenarios that would prepare policymakers and the citizens for the threats and the desirable alternatives in the future, without realizing and exploring the normative nature of the future, i.e., the possibility to make or shape the future. They force policymakers to understand the societal change as something bad and make them believe that they should protect themselves from its dangerous consequences.

For example, when exercising in order to create energy scenarios, mainstream policy analysts typically apply FRM that enable them to use extremely narrowly defined data in order to find regularities in social transition. So as to explore and perceive the transition of society, mainstream policy analysts, among others, apply trend impact analysis and trend thinking to foresee the future by applying regularities from the past

⁸⁸⁰ Mannermaa, 1988.

⁸⁸¹ Von Foerster, 1993.

⁸⁸² Mannermaa, 1988.

into the future, and to anticipate the change of quantities under the condition of constant qualities.⁸⁸³ They use empirical data to discover a certain –linear, exponential, cyclical or wave - pattern of change in correlation between variables that in their view decisively determine the energy politics. When seeing the relation between technology and consumption habits as decisive for the price of different types of energy, they search for the patterns in relationships between these variables in the past. After finding a pattern or trend shown by a set of data, they extrapolate, i.e., they apply it for making forecasts about what will happen. They project the trend into the future. Numerous qualitative variables, which might influence the energy price, including for example the environmental degradation, the scarce resources, the wars or the natural catastrophes such as a tsunami are widely disregarded or seen as constant, when formulating the energy scenarios. The mainstream policy analysts also typically use econometric models applying several variables, parameters and equations in order to measure the social transition and to express patterns in a more complicated way than the straightforward trend extrapolations. The energy scenarios generated on the basis of results of a trend impact analysis or/and of econometric research are then presented to policymakers as the most probable, probable, desirable energy futures.

The above example shows that the use of FRM based on the regularity principle is highly inappropriate to meet the epistemological needs of policy analysis for governance for SD. First, positivist approach to using FRM clearly makes the representation of the non-linear (global) transition of societies incomprehensible, because the transition is a process that erases the rules. This is because policy analysts fail to account for the fact that in a continuously changing, complex world, policymakers can take the role of learning and acting subjects, who form and make their own future in a responsible way only if they succeed to redirect their worldview and cognitive maps, i.e., their perception into the unknown future instead into the past as this is the case with the positivist policy analysis. Policy analysts using FRM on the basis of regularity principle largely overlook structural changes or breaks. Also, by using FRM to extrapolate certain patterns from the past into the future, policy analysts

⁸⁸³ Mannermaa, 2003.

are not capable of making the problems of deep uncertainty of global change methodologically visible.

Hence policy analysts aiming to conduct SGF need to emancipate themselves from using and choosing FRM in a way that enables them to explore future as a continuation of the past or present. Instead, the research methodological heuristic for SGF advises policy analysts to adopt emancipatory approach to use and choice of FRM that explicitly addresses the failures in choice and use of the scientific methods that is based on the regularity principle. In contrast to quantitative research logics described above, policy analysts relying on emancipatory approach ground their choice and use of FRM on the epistemological premise that the society is subjected to continuous and non-linear socio-cultural change due to which the future will not be like the past.⁸⁸⁴ In other words, when choosing and using FRM for SGF, policy analysts need to account for the fact that policymakers cannot search for the solutions to their perceived problems in the past and the present. They also cannot solve the anticipated problems by extrapolating the customary and trusted patterns of resolution from the past into and present into the future.

Policy analysts can adopt different methodological solutions in order to overcome the above shortcomings of positivist approach to choice and use of FRM for generating energy scenario. Policy analysts can for example use scenarios based on the regularity principle as reference scenarios, i.e., as business-as-usual descriptions of the future for stimulating further vision-building in the frame of the scenario workshops or to start constructing the truly interesting alternative worldview scenarios. Policy analysts can also use a range of further FRM to construct energy scenarios in emancipatory way, i.e., to critically reflect and deconstruct the prevailing concepts inside the contemporary energy politics discourses. They can use the CLA⁸⁸⁵ to locate and take apart those concepts inside the relevant discourses for discussion of energy policy, which serve as “the axioms or rules for a period of thought, those concepts which command the unfolding of an entire epoch of metaphysics.”⁸⁸⁶ The CLA allows them to deconstruct

⁸⁸⁴ Von Foerster, 1979.

⁸⁸⁵ For more on CLA see chapters 6.3.3. and 6.3.6.

⁸⁸⁶ Allison, 1973.

the foot-prints behind the texts, i.e., to take a critical thinking gesture towards the speech. Policy analysts can also use the CLA to explore the competition of ideas and viewpoints and to systematically expose policymakers to competing policy arguments made by their opponents and stakeholders.

The adoption of emancipatory approach to choosing and using FRM in SGF enables policy analysts to account for several epistemological needs of governance for SD. First, they are able to make the deep uncertainty of global change as a social matrix of meaning methodically ascertainable. By departing from exploring the non-existent and unknown in conventional patterns of reasoning and opening themselves to new, integrative, multiple-scale, north-south sensitive, human and natural systems perspective on global change, can better help policymakers account for the continuous unpredicted new emergencies due to global change such as the emergence of transnational society. They can also better help policymakers account for the fluid, pluralist and deeply uncertain nature of sustainability policies. By advocating the use of FRM in a way that enables to critically reflect the dominant beliefs, emancipatory approach also enables policy analysts to aid policymakers account for the pluralist and discursive nature of policy making and for multiperspective and multi-issue nature of global change. Moreover, it allows them to promote complex change learning of policymakers, promoting their critical reflection of and emancipation from their existing ways of thought. By striving to create opportunities for policymakers and the citizens to free themselves from old ways of thought and to create new ideas about the future, emancipatory approach to use and choice of FRM in SGF not only makes the plurality of SD discourse not only visible, but uses the differences as inspiration to de-routinize the routinized policy actions and political thinking and find new, harmonic solutions to policy problems.

In order to do methodological shift towards emancipatory approach to SGF, policy analysts need to explicitly reflect, how to choose and use FRM in order:

- to deconstruct the routinized ways and the dominant categories of futures thinking, to create a hypothetical space of intelligent breaking of the rules and to find innovative and inclusive ways of political thinking and policy action?
- to deconstruct the routinized social relationships and interactions and expose them to stress of mind deregulation, to differentiate the systems and to make policymakers aware of the unaware?
- to capture how ideas and discourses can have a force of their own independently of particular actors and how the actors themselves are properties of the discourses?
- to reflect upon discourses on futures not only as a social or political reality, but also as a constitutional force of much of the reality that has to be explained?
- to reflect upon discourses not only “as a social or political reality”, but as a constitutional force of much of the reality that has to be explained?
- to capture how discourses of interpretative policy communities generate permissible and advisable courses of action, while excluding or discouraging others?
- to locate and take apart those concepts within the discourses that serve as the axioms or rules of futures thought and that command the unfolding of entire epoch of metaphysics?

To answer these complex research methodological questions, policy analysts can rely on an extensive literature about the *critical or poststructuralist approach*. Both approaches are commonly conceived as the counterpart to reconstructive interpretative-hermeneutic approach. Inayatullah for example distinguishes critical approach from interpretative approach by pointing towards the post-structuralist science theory tradition behind it.⁸⁸⁷ However, according to Angermüller,⁸⁸⁸ such distinction between the hermeneutic principle of social research and the critical or poststructuralist principle of policy research is somewhat misleading, because it disregards the synergies and overlappings between both approaches. According to Lamnek,⁸⁸⁹ both methodological principles represent derivatives of one and the same interpretative paradigm that

⁸⁸⁷ Inayatullah, 1999; 2001; 2003.

⁸⁸⁸ Angermüller, 2005.

⁸⁸⁹ Lamnek, 1995a.

represents a widely, adopted and accepted substantial theoretical position ('grundlagentheoretische Position') behind the qualitative methodology. Moreover, the discourse on *deconstructivist approach* to social research offers extensive input about the above methodological questions. It draws on Derrida's⁸⁹⁰ concept of 'deconstruction' that represents a research methodological answer to the crisis of structuralism. Policy analysts can also draw on Steinert's⁸⁹¹ discussion of '*Befreiungs-Wissen*' as an alternative to socially privileged '*Ordnungs-Wissen*' that is primarily concerned with conceptions of 'good order' and 'good governance' for inherently chaotic society. Drawing on Steinert,⁸⁹² the research aimed at generating '*Befreiungs-Wissen*' typically strives to abolish or at least attenuate the memorial structured society and supplement the 'right' terms and concepts with reflected and criticised terms and concepts.

Nevertheless, policy analysts can also profit from the discourse on *emancipatory approach* in the futures field. Drawing on Habermas' differentiation of interest of knowledge into technical, hermeneutic and emancipatory interest, Mannermaa⁸⁹³ conceives the emancipatory interest of knowledge as the most important one when using FRM. He argues that "an emancipatory study does not simply study 'probable' developments or increase common understanding but searches for 'deviating' alternatives and criticizes even strongly dominant beliefs in order to give space to new ideas."⁸⁹⁴ However, while the emancipatory approach to policy analysis represents an acknowledged research methodological approach in the policy analysis as well as in the futures field, it does not yet have a secure footing in the empirical policy analysis practice.

⁸⁹⁰ Derrida, 1998.

⁸⁹¹ Steinert, 1989.

⁸⁹² Steinert, 1998.

⁸⁹³ Mannermaa, 2000.

⁸⁹⁴ Mannermaa, 2000, pp. 23.

6.3.6. Transdisciplinary Approach: Policy Analyst as Transdisciplinary Knowledge Agent

In order to exercise quality SGF that accounts for the epistemological needs of policy analysis for governance for SD,⁸⁹⁵ policy analysts should adopt transdisciplinary approach⁸⁹⁶ to choice and use of FRM. They need to act as transdisciplinary knowledge agents who aid policymakers take multiple perspectives and to coordinate, integrate and disseminate different types of knowledge across sectors, disciplines and time in order to find innovative governance solutions for tackling policy problems in a way that promotes SD.⁸⁹⁷ Thereby, they need to tackle a twofold challenge. First, due to high dynamic and complexity of global change and of policy problems, the research findings and knowledge are continuously contested. Thus policy analysts are permanently confronted with the problem of obsolete research findings and with an ongoing demand for new transdisciplinary types of knowledge that do not yet exist. Secondly, when there are existing bodies of knowledge that policy analysts can draw on in order to help policymakers tackle increasingly complex policy problems of multi-issue nature, then this knowledge is highly fragmented and needs to be integrated in a meaningful whole.

In order to tackle these research methodological challenges, policy analysts should emancipate themselves from the positivist habit to ground their choice and use of FRM on the causality principle⁸⁹⁸, i.e., on the principle of sufficient cause. They should distance themselves from using FRM for finding the sufficient cause while seeing the rest of universe as irrelevant. Also, they need to distance themselves from using FRM in order to account for the futures exclusively from perspectives that are determined by the formal technical borders of perception (e.g., by geographic, disciplinary and sectoral perspectives) and naively multiply these without accounting for how a particular view of the worlds precludes or restricts the possibility of understanding reality.

⁸⁹⁵ See Table 5.

⁸⁹⁶ Hunecke, 2006.

⁸⁹⁷ See Table 10.

⁸⁹⁸ Von Foerster, 1993.

Instead, when exercising SGF, policy analysts need to start choosing and using FRM in a way that enables them to overcome the disciplinary, geographic and other formal boundaries of knowledge and to account for the future in a holistic way. The use of FRM in the SGF exercises has to allow for integration of the marginalised with the principle points of view. In fact, knowledge integration represents the central cognitive operation of the transdisciplinary knowledge generation that demands very high level of cognitive integration to find solutions to policy problems that are not defined within science but instead derive from the living worlds.⁸⁹⁹ Transdisciplinary approach thus stands for productive organisation of research process in which not only scientists from diverse disciplines, but also other societal actors from relevant fields of practice cooperate in all phases of social research with the aim to produce problem oriented knowledge.

Mainstream policy analysts are increasingly aware of the relevance of providing multiple perspectives on a research issue when exercising Foresight.⁹⁰⁰ They strive to adopt the multi-perspective approach to use of FRM, i.e., they include as numberless perspectives as possible when collecting, analysing and interpreting data in order to generate holistic knowledge. Thereby, they tend to choose and use the perspectives and sources for illuminating their research objects (e.g., single policy problems) and the contextual conditions on the basis of purely formal and technical borders of scientific discourse such as for example by geographic, sectoral and disciplinary borders as well as by personal preferences of policy analysts. Policy analysts thus typically adopt the more restricted multidisciplinary approach and the interdisciplinary approach to Foresight that are characterised by a lower level of knowledge integration than transdisciplinary approach. When taking the multidisciplinary approach to Foresight, policy analysts strive to address an externally determined problem and process it by different disciplines. The focal point of knowledge generation lies within the single disciplines. When adopting the interdisciplinary research, the problem definition takes place in participation of different scientific disciplines. Policy analysts strive to process the problem by all participating disciplines.

⁸⁹⁹ Hunecke, 2006.

⁹⁰⁰ Linstone, 1985.

Moreover, when choosing and using FRM for exercising Foresight, mainstream policy analysts often tend to integrate different bodies of knowledge in a way that is insensitive to its temporal and epistemic nature. This research habit is informed by the positivist belief in the absoluteness of scientific knowledge, which causes that policy analysts largely fail to contextualise the knowledge collected. For example, policy analysts usually invite economists from all over the world in order to account for the economic perspective in the Foresight exercise. However, they widely fail to recognise different paradigms ranging from neoliberal to political economy paradigm that can inform the economists. Because they ignore the worldview differences among the economists that lead to differences in perceiving the policy problems and the solutions, they fail to integrate the knowledge of economists in a coherent way.

Nevertheless, when integrating distinct bodies of knowledge, mainstream policy analysts tend to disregard the problems of language and rhetoric that occur because disciplinary, sectoral and other discourses have their own languages to treat one and the same research object. In particular, the mainstream policy analysts are insensitive to two problems that are related to translation and that occur when distinct disciplines and sectors observe the same research object from different perspectives. First, they are insensitive to the terminological problems which occur when the same term is used for different phenomena or when the same phenomena are labelled by different terms. Secondly, mainstream policy analysts integrating knowledge tend to disregard the problem of different levels for description of phenomena. Each of these levels follows a distinct 'Erklärungsanspruch' that results in different integration levels of knowledge.⁹⁰¹

So as to become transdisciplinary knowledge agents when conducting SGF, policy analysts, therefore, need to severely rethink the positivist research habits described above. They need to explicitly reflect the methodological questions regarding the integration of fragmented pieces of knowledge and perspectives (e.g., natural and social sciences, economic and social and environmental perspectives) in all phases of research process. In particular, they need to explicitly reflect how to choose and use FRM:

⁹⁰¹ For more see chapter 6.3.2.

- to transcend the often implicit disciplinary, sectoral and geographic borders of highly fragmented bodies of knowledge and to define and enhance the relevant bodies of knowledge and perspectives on the basis of the living-world problems?
- to integrate knowledge in a way that is sensitive to different descriptive levels of single disciplinary, sectoral and other social discourses?
- to integrate relevant perspectives and bodies of knowledge in a way that is sensitive to temporality, norms and epistemics behind the distinct bodies of knowledge?
- to integrate knowledge in a way that is sensitive to terminological differences between different sectoral and disciplinary discourses?
- to capture the privileged as well as the marginalised perspectives on policy issues to be addressed at governance level?
- to synthesise the expert-scientific disparate knowledge on transdisciplinary policy problems?

Policy analysts can draw on an extensive literature on the *transdisciplinary* or *integrated approach* in order to answer these complex methodological questions. The increasingly popular discourse on transdisciplinary approach to social ecological research⁹⁰² for example delineates a range of methodological questions and solutions so as to support vertical and horizontal integration of knowledge in a way that is sensitive to the world as framed through sustainability lens. In particular, Hunecke's⁹⁰³ *phase-model of transdisciplinary knowledge production* represents a promising meta-theoretical frame for methodological reflection. The model was originally developed to analyse the social ecological research processes and to develop a research methodological heuristic for the social ecological research. It distinguishes three phases of transdisciplinary research process, including (1) the problem formulation, (2) the problem examination, and (3) the evaluation of the developed problem-solving strategies. The problem formulation phase concerns the division of the problem in several sub-areas to be processed with distinct methods. It thus constitutes common ground for formulation of the research questions. The departing point thereby represents either the living-world problems or the theoretical problems.⁹⁰⁴ The problem

⁹⁰² Hunecke, 2006.

⁹⁰³ Hunecke, 2006.

⁹⁰⁴ Huncke, 2006.

examination includes the problem segmentation ('Problemzerlegung') that is aimed at processing and integrating the sub-areas of the problem and at translating the inquiries into a practically usable form. It demands communication skills, processing of explicitly living-world problems and adaptation of the scientific work on the context of praxis.⁹⁰⁵ The evaluation of developed problem-solving strategies focuses on assuring the progress in knowledge and on benchmarking the successful strategies. It can be conducted at two levels: at the level of application concerned with the reception of the research results by the addressees and at the implications level concerned with the degree of the intended interpretations, of the use of research results and of the wanted consequences.⁹⁰⁶

Policy analysts struggling to tackle transdisciplinary approach to SGF can also draw on Inayatullah's discussion of the *CLA*⁹⁰⁷ within the futures field. This FRM offers a matrix that distinguishes four levels of description for meaningful synthesising of the fragmented pieces of knowledge. The matrix represents a promising reference frame for managing and analysing data across layers of thinking after a great deal of divergent data on the research subject has been articulated. It enables policy analysts aiming to inform governance for SD to situate data at different levels of description and to explore how the way in which one frames a problem changes the policy solution. By using the matrix, policy analysts can systematically move up and down multiple layers so as to integrate analysis and synthesis and sideways through worldview level in order to integrate discourses, ways of knowing and worldviews. On one hand, the CLA matrix allows policy analysts to change between four levels of thinking in the vertical direction: the litany level (i.e., the level of quantitative trend and problem, the common rationality level), the systems level (i.e., the social causes level), the worldview level (i.e., the structure /discursive level) and the myth level⁹⁰⁸ (i.e., the metaphor level) of social reality. It also allows policy analysts to move between the levels in the horizontal direction (e.g., between different worldviews framing the issue) when analysing and interpreting empirical data.

⁹⁰⁵ Mogalle, 2001.

⁹⁰⁶ Huncke, 2006.

⁹⁰⁷ Inayatullah, 2001; 2001a; 2003. See chapter 6.3.3.

⁹⁰⁸ Inayatullah, 2001; 2003.

The CLA matrix, therefore, enables policy analysts to control the consistency between the ‘first order explanations’⁹⁰⁹ (the litany/common rationality level and the social causes level) and the ‘second order explanations’⁹¹⁰ (the discursive and the metaphorical/mythical level).⁹¹¹ It allows them to meaningfully integrate different pieces of knowledge from the worldview and myth perspective while preventing that this would lead to ‘holism’, which neglects the significance of the lower levels of social reality, i.e., the litany or systems levels. The matrix also enables to consider the temporality of knowledge. According to Inayatullah,⁹¹² the temporal dimension expands as policy analysts move down the levels of thinking. While the litany level concerned with quantitative trends is more immediate, the social causes level is more historical. The structure level is concerned with discourses and worldviews that legitimise the structures is much longer term. The metaphor/myth level is indeed a temporal, focused on notions of primordial identity.⁹¹³

⁹⁰⁹ Luhmann, 1984.

⁹¹⁰ Luhmann, 1984.

⁹¹¹ Inayatullah, 2003.

⁹¹² Inayatullah, 2003.

⁹¹³ Inayatullah, 2003.

7. Conclusion

Ever since 1997, SD represents an overarching objective of the EU, guiding all its policies and actions. However, there is still tremendous amount of conflict and disagreement with regards to management and futures of governance for SD. Policymakers in the EU thus increasingly turn to policy analysts for a reasoned knowledge-based policy advice. In its ideal form, policy analysis as a sub-discipline of political science applies theory and analytical methods in order to sharpen the focus of policymakers and identify critical issues and alternatives for public action. In particular, Foresight approach and FRM represent progressively more popular means to produce policy-relevant strategic knowledge. However, in practice, policy analysts lack the capacity to provide quality ex-ante policy advice on the ways to adapt governance for more SD. They often fail to revise and adapt the mainstream conceptions of policy analysis and their traditional role in policymaking in light of the new knowledge needs of policymakers involved in governance for SD.

The thesis offers a first comprehensive analysis of this knowledge gap between policymakers and policy analysts involved in governance for SD at the second order observation level. It provides an in-depth comparative analysis of cognitive systems of policymakers and policy analysts in terms of their insight and blindness to frame and to study governance in the SD perspective. On this basis, the thesis critically discusses the applicative potential of Foresight approach and of FRM to bridge the knowledge gap between policy analysis and governance for SD. It proposes a comprehensive reference frame for SGF that is designed to enhance the theoretical, epistemological and methodological reflexivity and self-control of policy analysts exercising SGF. The frame should allow policy analysts to rethink and adapt their theoretical, epistemological and research methodological reference frame for using the FRM in a way that enhances their ability to aid policymakers perceive governance in the SD perspective.

All in all, the thesis argues that in order to aid policymakers adjust governance for more SD, mainstream policy analysts need to severely refocus their research priorities and reorient themselves towards new research frontiers. So as to help policy analysts tackle this complex task, the thesis first proposes a *typology of cognitive barriers and challenges of policymakers* in terms of perceiving governance in the SD perspective. The typology highlights that policymakers encounter three types of cognitive barriers to framing governance through sustainability lens which have to date remained largely out of sight of mainstream policy analysts due to their restricted positivist theoretical and methodological approach to policy analysis.

First, policymakers in the EU severely struggle to tackle the *discursive nature of the SD concept*. The SD concept is pluralist and dialogue-based. It is characterised by more than three hundred partly competing and continuously changing definitions, which do not allow a blueprint for operationalisation and implementation of SD in policymaking. However, policymakers tend to disregard the dynamic nature of the SD concept because they conceive it as a temporally static concept. They also fail to position the SD concept within the broader political discourse on competing development paradigms and open it for disputes about quality of life. This is because they tend to frame SD as an absolute, ideal end-state of societal development. Moreover, policymakers exhibit insensitivity for the often opposing interpretations SD concept by policymakers and stakeholders because they tend to understand SD as a perspective independent concept. They thus encounter severe political controversies and deadlock situations when mainstreaming SD into policymaking.

Secondly, the typology argues that policymakers struggle to adapt governance for more SD because the concept severely challenges the predominant modes of political thinking. The SD concept demands a new dimensionality of political thinking and argumentation. Policymakers need to rethink the temporal, spatial, fact, dynamic, power and ethical horizons of their political thinking in order to frame and understand governance in the SD perspective. For example, by arguing for the intergenerational justice and for the long-term well being of the humanity, the SD concept severely challenges the *temporal dimension* of mainstream political thinking that is characterised

by the structural preference of the present in contemporary democracy and by the short-term, profit-oriented neoliberal view of world trade and global economy. By referring to intragenerational interdependence and by advocating the social justice for all humankind, the SD concept challenges the *spatial dimension* of mainstream political thinking that is commonly based on the absolute notion of space, resulting in a state-, local-, euro- and ethnocentric political thinking of policymakers. It highlights the need to redirect political attention toward global extensive interconnections across space and to consider a bigger global picture that is often contested and ignored.

By advocating the necessity to account for the intensive interdependence and trade-offs between the social, economic and environmental dimension of policymaking, the concept of SD challenges the *fact-orientation* of mainstream political thinking that is commonly based on the principle of the necessary and sufficient cause. In particular, it challenges the resulting issue-centred perspective on policymaking, the sectoral compartmentalisation of regulatory responsibilities and the primacy of the economic perspective in political thinking of policymakers. The SD concept also contests the way in which policymakers *think societal change*. By arguing for the necessity to sustain the natural life support systems of the planet, and to account for the limits of growth as well as for the possibility of a system's break down, the concept contests the tendency of policymakers to rest their cognitive function upon the principle of conservation of rules. In particular, it challenges their preference for trend thinking postulating societal development as unchanging (non)change, for futurism, for linear model of growth, and their cultural contempt to see the success in the past as the assurance for future growth.

By advocating the multi-actor and multi-stakeholder approach in policymaking and calling for a new power ambience of policymaking, the concept of SD challenges the *power dimension* of mainstream political thinking. In particular, it contests the traditional, hierarchic concept of policymaking as 'governing' and the positivist notion of policymaking that disregards the importance of social values of people and of the narrative storytelling about policy problems. By calling for the re-privatisation of ethical responsibility of each and everyone for common wealth, the concept of SD challenges the *ethical dimension* of mainstream political thinking. It demands from

policymakers to reconsider the concept of representative democracy and the ‘I will of you will’ worldview, for these notions close their view for the micro-ethical perspective of policymaking.

Nevertheless, the typology identifies a third type of cognitive challenges that policymakers struggle to tackle when adapting governance for more SD. They concern the capacity of policymakers to account for the *implications of global change in the SD perspective*. The thesis points out that policymakers typically rely on theories of IR that derive from old paradigm thinking such as for example the realist, the liberalist, the pluralist and the globalist theory of IR in order to draw a map of changing patterns of global affairs. While these theories allow them to observe change within existing global political structures and systems, they limit their ability to account for the temporal, spatial, fact, dynamic, power and ethical horizons of global change that are considered relevant in the SD perspective.

The typology draws on the global governance theory in order to systematically point out the main cognitive challenges of observing global change through sustainability lens. The typology argues that policymakers need to sensitise their thinking of global change for the *long-term futures perspective* in order to better adjust governance for more SD. In particular, they need to account for the acceleration of the pace of politics at all levels of community, for the confounded spatial and temporal dimensions of global governance, and for the increasing fluidity and dynamic nature of sovereignty of states. Furthermore, in order to account for the *spatial underpinnings of global change* in the SD perspective, policymakers should focus on observing the increasingly nonterritorial, non-linear and dialectic nature of simultaneous shifts of authority toward transnational and sub-national level, the simultaneous forthcoming of the extensive interconnections across space, and the intensive interconnections reaching into the level of personal conduct.

The typology also argues that policymakers should account for the *multi-issue horizon of global change* in order to better adapt governance for more SD. In particular, they should study the reciprocal interdependence between market and state and examine the

global governance patterns as systems centred on multiple issues. Moreover, they should observe multiple dimensions of changing patterns of global affairs, including the civil dimension of global change (e.g., the emergence of global civil society), the informational dimension (e.g., the growing importance of epistemic authority), the social dimension of global change (e.g., the emergence of new intellectual and political elites) and the environmental dimension of global change (e.g., the emergence of environmental governance) in addition to the economic dimension of global change. Furthermore, policymakers should take into account the *non-linear dynamic of change in patterns of global political affairs*. They should adopt a differentiated view on societal and economic growth. They should pay attention not only to the dialectic nature of economic globalisation with contradictory effects for the human well-being, but also to the limits that global order as an all-encompassing and organic whole poses to growth due to its universal interdependence on the biosphere. In this way, policymakers would be able account for the natural and social limits to global economic growth and for the importance of the self-sustaining nature of societal growth.

Nevertheless, the typology points out that in order to account for the *power dimension of patterns of global affairs* in the SD perspective, policymakers should focus on studying the ongoing extension of democratic space in the patterns of global cooperative interactions, i.e. the multi-party nature of changing patterns of global affairs due to emergence of multiple spheres of authority and due to delocalisation of the authority of territorial states to subnational, transnational and non-governmental level. They should also explicitly examine the rising democratic and normative potential of diversified and engaged realm of global civil society, the increasing power of hyper-capitalist elites, and the rising epistemic authority of emerging global informational elites such as for example epistemic communities and think-tanks. Finally, the typology points out that policymakers should account for the *micro-ethical dimension* of global change in order to better adapt governance for more SD. They should study the intensive nature of globalisation that is reaching into the level of personal conduct, i.e., they should frame global change as a bottom-up process. In particular, they should account for the rising skills and capacities of individuals and the alteration of their ethical horizons of identification due to patterns of global life.

Mainstream policy analysts exhibit only limited capacity to help policymakers tackle the above three types of complex cognitive barriers to and challenges of observing governance in the SD perspective. This is because they largely rely on theoretical approaches that are informed by the old paradigm thinking and by its derivatives, the positivist and the critical rationalist mode of thought, which severely restrict their view on the relevant analytical dimensions of policy analysis for governance for SD. In order to aid policy analysts revise and improve their theoretical approaches, the thesis thus proposes a *typology of shortcomings of mainstream theoretical approaches to policy analysis for governance for SD*. The typology should allow them to bring relevant theoretical assumptions to surface for conscious critical reflection.

The typology of theoretical shortcomings first points out that mainstream policy analysts struggle to help policymakers account for the discursive nature of the SD concept because they tend to adopt a highly *fragmented, determinist and reductionist notion of policymaking*. They study the policy process as a rationality project, in which political ideas such as the SD concept are conceived as serving the mere legitimisation of power and interests and as having only a peripheral function for real policy change. Moreover, policymakers tend to rely on the one-way cycle model of policymaking as a process that consists of rigid and closed phases that follow each other as if on assembly line, and that produce single, bounded, independent and invariable policies to achieve fixed policy goals. In this way, mainstream policy analysts remain widely blind for the struggles over the concept of SD as a mode of influence. They also fail to observe and explore the sustainability policies as self-generating and moving targets in need of constant public justification and negotiation. They remain blind for their embedding in policy landscape as well as for their sectoral, functional and international interweavement and their macro effects on the whole system.

Secondly, the typology highlights that mainstream policy analysts lack the capacity to aid policymakers at making sustainability shift in their political thinking because they tend to rely on *restricted notions of policy learning and knowledge*, which derive from the positivist and critical rationalist line of thought. Mainstream policy analysts tend to frame policy learning either in behaviourist perspective, i.e., as a transfer of the

available ‘know-that’ knowledge from the heads of policy analysts to the heads of policymakers. They conceive information and knowledge as static goods, i.e., as commodities or substances that can be transmitted with the help of an appropriate stimulus that evokes the conditioned reflex of policymakers to adapt to external world. Such behaviourist stimulus-response notion of policy learning results in a highly elitist non-critical self-understanding of the role of policy analysts in the policy process. They see themselves as ‘Philosophenkönige’ who can produce absolute knowledge about what policymakers should do to adapt governance for more SD. Policy analysts thus typically focus on studying the efficiency and effectiveness of political programmes in order to provide frontal presentations and instruction and/or to elaborate expert reports that aim to stimulate the adaptation policy learning of policymakers. Thereby, they see policymakers’ brain as a black box. They leave the cognitive maps of policymakers largely out of sight. Consequently, they fail to offer targeted policy support that would enable policymakers to bring their reference frames and methods of perception to surface for conscious examination in order to make a sustainability shift in their political thinking. Alternatively, mainstream policy analysts follow the more progressive cognitivist notion of learning that frames policy learning as a problem-solving process. In this perspective, they recognise the necessity to support policymakers at processing and transforming information into policy knowledge. Accordingly, they focus on defining the policy problems and on providing policymakers with the ‘know-how’ knowledge on the ways to solve them. They take the role of tutors who predefine policy problems and then help policymakers apply the right procedures and methods to solve them. However, such notion of policy learning prevents policy analysts to promote the capacity of policymakers to critically reflect their observation processes and question their horizons of political thinking in the SD perspective.

Nevertheless, the typology argues that mainstream policy analysts lack the capacity to help policymakers improve their ability to account for global change in the SD perspective because they, too, rely on *theories of IR* deriving from old paradigm thinking in order to make sense of change in the global political affairs. By assuming that global affairs form a static order or structure that changes according to a certain pattern and that is manageable and controllable, policy analysts fail to help

policymakers account for the long-term futures horizon of global change. Moreover, policy analysts tend to depict and examine the patterns of global affairs as a two-level international system that is characterised by a clear division between the foreign and domestic affairs. In this way, they fail to help policymakers account for the truly global dimension of global change, i.e., for the transnational scope of change in patterns of global affairs in focus of the SD community. When studying global governance patterns, mainstream policy analysts, furthermore, tend to assume that these evolve around narrow single issues, and that they are primarily determined by the global market. Such an issue-centred and causalist notion of IR limits their capacity to assist policymakers at accounting for the multi-issue nature of global change. Mainstream policy analysts also lack the ability to aid policymakers at tackling the complex and dialectic nature of global change because they tend to frame growth dynamics as a one-way linear process. Moreover, policy analysts fail to support policymakers at accounting for the multi-actor horizon of global political cooperation because they assume that sovereignty of states represents an absolute and static societal phenomenon, that governments and states are the essential underpinnings of the world's organisation, and that cooperative political arrangements are formed by national interests. Nevertheless, the typology points out that by relying on the notion of individuals as peripheral and primarily rationally motivated actors in the world politics, policy analysts lack the capacity to help policymakers account for the micro-ethical dimension of global change that are considered relevant in the SD perspective.

The typology of shortcomings of theoretical approaches taken by mainstream policy analysts in order to help policymakers overcome their cognitive barriers to observing governance in the SD perspective allows to aggregate three types of epistemological needs of policy analysis for governance for SD. These include: (1) the need to observe the discursive nature of policymaking in order to help policymakers account for discursive nature of the SD concept, (2) the need to account for the processes by which policymakers acquire knowledge in order to support them at sustainability mind-shift in the political thinking, (3) and the need to tackle the deeply uncertain nature of global change in order to help policymakers account for it in the SD perspective. These epistemological needs represent blind spots in the mainstream policy analysts'

observations. So as to improve the epistemological value of policy analysis for governance for SD in the empirical practice, policy analysts thus need to exercise policy analysis that is sensitive to these epistemological needs.

The thesis argues that policy analysts can profit from using the Foresight approach and FRM in order to meet the epistemological needs of policy analysis for governance for SD. Thereby, they need to emancipate themselves from the quantitative research logic that fuels the unreflected attitude towards their choice and use of FRM and that limits their capacity to adapt their research habits to the epistemological needs. However, the positivist logic commonly informs the educational programmes on policy analysis, the methodological discourse on Foresight and a large part of the empirical Foresight practice. For example, students are typically taught to use rigorous toolboxes of FRM that are conceived as neutral research techniques. They have little or no training in understanding the normative and interpretative foundations of FRM and in studying the social setting to which they are to be applied. The mainstream methodological debates on Foresight often fail to distinguish between the methodology (i.e., research logic) and the methods (i.e., research paths). This leads to lacking scepticism of policy analysts towards their own research logic and to their limited ability to use and choose FRM in a self-reflexive way. In empirical practice, policy analysts informed by positivist research logic typically assume that their choice and use of FRM is perspective independent, that the quantitative research is less scientific as quantitative research, that the existing research logics and methods are immune to conceptual shifts, that the quality of research improves with improved efficiency of single research methods, and that mixing the FRM automatically leads to better research results. Positivist research logic hence fuels the standardised, operationalised and unreflected approach to using FRM in policy analytical Foresight, which is highly insensitive to epistemological needs of policy analysts aiming to inform governance for SD. Also the systematisations of FRM are largely informed by the quantitative research logic. Consequently, they fail to account for the users of FRM as well as for the epistemological value of FRM. They are typically so engrossed with details and nuances in the varieties of FRM that policy analysts end up with a map which is almost as tangled and confusing as the jungle of FRM itself.

In order to help policy analysts choose and use FRM for exercising SGF that is sensitive to epistemological needs of policy analysis, the thesis thus proposes a meta-epistemological and meta-theoretical frame for SGF. It argues that policy analysts exercising SGF need to continuously (1) examine the epistemological value of FRM for meeting the epistemological needs of policy analysis for governance for SD, (2) critically reflect the epistemological frame behind their practice of SGF and the related research interest and research goals of SGF, (3) examine their own research methodological logic and approaches to using FRM in relation to the epistemological needs of policy analysis for governance for SD, (4) and adapt them in a way that enables them to better tackle these epistemological needs.

In order to promote such epistemological and research methodological reflexivity and self-control of policy analysts aiming to exercise SGF, the meta-epistemological and meta-methodological frame for SGF includes three elements. The *paradigmatic typology of FRM* aims at helping policy analysts to critically examine the epistemological value of FRM for SGF. It is based on the assumption that policy analysts can rely on any type of FRM for exercising SGF as long as they apply them in a way that is sensitive to their epistemological value. The typology hence brings the paradigmatic foundations of FRM to surface for conscious examination. It classifies FRM into three categories, each referring to a distinct generation of futures thinking in the futures research field.

The *first generation FRM* are informed by the positivist desire to forecast the future, i.e., to make plans and to perform activities fitted to the ‘forecasted’ futures as perfectly possible. They include the Forecasting methods that have primary epistemological value within the quantitative research methodological approach to SGF as they enable policy analysts to explore the future and the societal change in the old paradigm perspective, i.e., as a linear process. The *second generation FRM* include different scenario techniques that are informed by futures thinking which acknowledges and embraces the uncertainty of the future and the existence of a range of possible alternatives, more or less probable, more or less desirable. They are primarily aimed at connecting together various driving forces, trends, and conditioning factors so as to envisage alternative

futures. They have primary epistemological value within both, the quantitative and the qualitative reconstructivist research logic. On one hand, they have high applicative potential within the quantitative research approach to SGF, i.e., for exploring futures alternatives on the basis of culturally defined present, while disregarding different ways that other cultures frame the world. On the other hand, they for example represent valuable methods for interpretative SGF, i.e., for creating alternative futures by discerning how different cultures create the future and what they think the future will be like. The *third generation FRM* comprise critical methods that are informed by the post-positivist idea of ‘making the future’, which derives from futures thinking that realises its own normative and paradigmatic nature. They represent research paths for historicising and deconstructing the future in order to challenge the categories of thinking for constructing alternative futures and thus have primary epistemological value for deconstructivist approach to SGF.

Secondly, the thesis proposes a three-dimensional *typology of epistemologies in SGF* that strives to aid policy analysts to explicitly reflect how different epistemological frames determine their capacity to exercise SGF that is sensitive to the epistemological needs of policy analysis for SD. The typology allows policy analysts to critically reflect, what epistemological frame is of high applicative value for exercising SGF in a specific research context, how it determines the research interest, the research goals and the research outcomes of SGF, and what is the epistemological value of such SGF in terms of meeting the epistemological needs of policy analysis for governance for SD. The typology shows that policy analysts can profit from all three central types of SGF that derive from the following epistemological positions: the positivist, the interpretative and the critical. However, different types of SGF and policy advice emerge from the three epistemologies in SGF.

Positivist SGF aims to produce single-value deterministic images of the future that ignore uncertainty and underlying assumptions. It creates alternative visions in a given plan or episteme that simply reinscribe the present even while they ‘predict’ the future. In contrast, interpretative and critical SGF strive to make uncertainty of the images of the future and the underlying assumptions explicit. *Interpretative SGF* thereby strives to

decolonise the future by creating culturally self-aware interpretations in order to reconstruct the images of the futures in various contexts, cultures and organisation ('systemic type visions'). While significant in expanding the discourse of the future across cultures, it relativises the future at the expense of politics. *Critical SGF* aims at reinventing the futures by historicising and deconstructing the futures. It creates new epistemological spaces for developing alternative 'worldview visions'. Mainstream policy analysts thereby typically rely on the positivist epistemology that is captured by the predictive orientation.

Nevertheless, the thesis sets out a *research methodological heuristic for SGF* that strives to help policy analysts emancipate themselves from the positivist unreflected approach to using FRM in SGF. It wants to help them critically reflect and adapt the research methodological approaches to using FRM in a way that is responsive to the epistemological needs of policy analysis for governance for SD. Drawing on the interpretivist methodological discourse within the social sciences and the policy analysis and futures research field, the heuristic for SGF identifies the following six central heuristic principles for SGF: the explorative, the hermeneutic, the deliberative, the communications, the emancipatory and the transdisciplinary approach. Thereby, the heuristic for SGF argues that mainstream policy analysts not only need to drastically change their positivist research logics when exercising SGF. They also need to rethink their traditional role, tasks and profile in empirical and professional praxis. In fact, each research methodological principle in the heuristic for SGF demands from mainstream policy analysts to tackle new tasks and to adopt new roles.

The heuristic first argues that mainstream policy analysts need to emancipate themselves from the operationalised research design based on the ex-ante hypotheses and become *critical explorers* in order to conduct SGF that empirically accounts for the epistemological needs of policy analysis of governance for SD. They should choose and use FRM according to flexible and opened research design that enables them to continuously adapt the research focus and inquiry on the basis of the new insights about the research object. Second, the heuristic for SGF points out that mainstream policy analysts should act as *discoverers of frame* conflicts who use FRM to detect conflicts in

framing of policy issues in order to exercise quality SGF. Thus they should distance themselves from using FRM in a way that is ignorant toward interpretative judgements. Instead, they should use them in a way that allows them to reconstruct frames as normative-prescriptive stories that shape different understandings which set out policy problems, course of action and basis for persuasion.

Third, mainstream policy analysts need to distance themselves from using FRM in a way that disregards the discursive practices and hidden forms of communicative power behind them. Instead, they ought to become *translators across discourses* who translate the knowledge from one community to another by developing refined frames. Thus they should choose and use FRM to account for the debug the complexity of framings, and to clarify the multiple meanings and understanding of policy issues in such a way that policymakers are able to choose a set of efficacious and just governance solutions that promote SD. Fourth, so as to conduct quality SGF that is responsive to the epistemological needs of policy analysis for governance for SD, mainstream policy analysts should distance themselves from hierarchic notion of their relationship with citizenry and become *facilitators of citizen deliberation*. They should choose and use FRM in to bring to fore the grass roots knowledge and to empower the citizenry to participate in intelligent and egalitarian way in deliberations of public affairs.

Fifth, in order to promote the search for deviating futures alternatives and new forms of knowledge, mainstream policy analysts need to emancipate themselves from conducting Foresight on the basis of regularity principle. Instead, they should become *honest brokers* who choose and use FRM in a way that allows them to deconstruct and challenge the routinized ways of political thinking on future and detect the signs of breaks and destabilisations as inherent features of societal development. Nevertheless, the heuristic for SGF advises mainstream policy analysts to distance themselves from the research design based on causality principle and become *transdisciplinary knowledge agents* who integrate specialised knowledge from different discourses, equalise information among different actors. When exercising SGF, policy analysts should thus choose and use FRM to promote transdisciplinary knowledge management,

i.e., the integration of different descriptive levels of disciplinary, sectoral and other social discourses.

The utility of heuristic for SGF in empirical research practice largely depends from the competence and mind-set of policy analysts to use it in a critical and informed way. The research methodological principles identified in the heuristic for SGF do not represent static, didactic, prescriptive and rigid methodological rules, recipes or requirements that remove ambiguity and that need to be fulfilled by policy analysts to gain scientific insight. Rather, they are emergent and interactive methodological directions and guidelines with a degree of ambiguity that allows for adaptations to different and changing contexts. They form a matrix for bringing the underlying research logic that informs the choice and use of FRM by policy analysis to surface for conscious examination. Moreover, the boundaries between the single methodological principles advanced by the heuristic for SGF are fuzzy. The principles do not represent the opposition pairs, but are additive to each other. For example, emancipatory approach is different than hermeneutic, but it is additive to it. Opposed to each other they would be doomed to failure. The methodological principles are also highly interdependent in the sense that they reciprocally reinforce each other. For example, in order to act as transdisciplinary agents, policy analysts need to facilitate citizen deliberation. They need to use FRM in a way that supports active involvement of diverse actors from science and other relevant action fields in all phases of research process. The heuristic disregards these interdependencies so as to enable analytical clarity and to prevent that mainstream policy analysts become immobilized and overwhelmed by the complexity of methodological questions. However, policy analysts using the heuristic for SGF need to account for these interdependencies and explore how single methodological principles reinforce and complement each other in interaction with empirical practice.

To conclude, the ability of policy analysts to successfully apply the reference frame for SGF offered in this thesis in order to improve their empirical research practice depends on twofold. First, it is conditioned by their capacity to create appropriate research conditions at the institutional level. The institutions not only define the rules of the game, but also affect the distinct theoretical and methodological approach to SGF

exercises, their purpose and outcomes. However, policy analysts themselves do not choose institutions, but institutions choose policy analysts. Moreover, there is no one agent or group of agents who decide how an institutional structure is to be arranged. Institutions thereby represent complex and dynamic coral reefs with layer upon layer. As the institutional conditions importantly influence the capacity of policy analysts to exercise SGF according to the research methodological principles as defined in the heuristic, there is further research needed on the institutional dimensions of SGF, i.e., on the institutional structures and practices that frame the SGF research activity. Thereby, the focus should be put on questions such as, how to embed SGF within and outside the organisations? What are the relevant institutional, organisational and human resources policy factors and questions that policy analysts need to explicitly consider in order to create institutional structures that enable them to fulfil the methodological tasks advanced in the heuristic for SGF?

Secondly, policy analysts need to keep the politics of Foresight in mind. In empirical practice, positivist approach to Foresight represents the dominating research methodological approach in the EU Foresight exercises. It is not only favoured by policy analysts and other experts such as planners, futurists or economists, but also by policymakers. One of the central reasons why the strategic discourse is most prevalent in the positivist framework is that policymakers often create obscure languages because that language serves particular interests. Hence they prefer to leave the language unexamined so that it continues to determine what images of the future are possible, and which are likely to achieve a given reality. This enables policymakers to stay focused in the present and prevent new futures that could undermine current power structures. Moreover, policy analysts need to bear in mind that the demand of policymakers for more and better policy advice does not necessarily lead to better policymaking, as policymakers often lack the will to make decisions in a way that promotes governance for more SD. In addition, policymakers often look for policy advice when decisions are already made, therefore, simply looking for advice that provides the legitimacy or the information to make that decision. While these questions exceed the frame of this thesis, they represent important issues for further research.

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<http://www.sd-network.eu/?k=country%20profiles>
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<http://ipg.ict.tno.nl/wordpress/efp/2010/05/06/foresight-and-forward-looking-activities-exploring-new-european-perspectives/>
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<http://sustainabilityscience.org/content.html?contentid=1173>
- FTA Conferences: <http://foresight.jrc.ec.europa.eu/fta.html>
- Futures Studies - The FOR-LEARN Online Foresight Guide:
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 Cassingena Harper, Jennifer: The Malta Council for Science and Technology, Interview in Mai 2004 in Seville, Spain.
 Coates, Joseph F.: Consulting Futurist, Inc. Washington, Interview in July 2004 in Washington D.C., USA.
 Da Costa, Olivier: European Commission, JRC, Belgium, Interviews in Mai 2004 in Seville and in March 2007 in Bled, Slovenia.
 Da Fonseca, Ricardo Seidl: Programme Coordinator for the Technology Foresight Initiative and manager of the Regional Technology Foresight Programmes for CEE, NIS and Latin America at the Investment and Technology Promotion Branch of UNIDO Interview in Mai 2007 in Vienna, Austria.
 Dewandre, Nicole: Head of the Sustainable development Unit in the Directorate General for Research, Interview in Mai 2007 in Leipzig, Germany and in October 2008 in Brussels, Belgium.
 García, Rodolfo Sosa: President of Galilei Consulting, Special Advisor to Foreign Minister of Mexico at Latin American Gipfel in Vienna, Interview in 2007 in Vienna, Austria.
 Glenn, Jerome Clayton: Co-founder and director of the Millennium Project of World Federation of the United Nations Associations (former American Council for United Nations University), Interviews between Mai 2004 and June 2010 in Washington D.C., USA, in Bled, Slovenia and in Vienna, Austria.
 Gordon, Ted: Senior Fellow and co-founder of the Millennium Project of World Federation of the United Nations Associations (former American Council for United Nations University), Founder and Board member of The Futures Group International and member of the Board of the Institute for Global Ethics, Interview in July 2004 in Washington D.C., USA.
 Groff, Linda: Global Futurist and Synergist, Professor of Political Science & Future Studies at California State University-Dominguez Hills, President of Global Options, Interview in July 2004 in Washington D.C., USA.
 Harold A. Linstone, Editor-in-Chief, Technological Forecasting and Social Change, Interview in July 2004 in Washington D.C., USA.
 Havas, Attila: Senior Research Fellow at the Institute for Economics, Hungarian Academy of Sciences and regional editor of International Journal of Foresight and Innovation Policy, Interview in March 2007 in Bled, Slovenia.

Holzinger, Katharina: Professor and Managerial Director of the Centre for Globalisation and Governance, Institute of Political Science, University of Hamburg, Interview in 2004 in Vienna, Austria.

Inge Kaul, Director of the UNDP Bureau for Developmental Studies, senior evaluation officer and policy analyst, Interview in July 2004 in New York.

Keenan, Michael: OECD, Paris, and PREST Manchester Institute of Innovation Research, UK, Interview in Mai 2004 in Seville, Spain.

Kumar, Chetan: Senior Conflict Prevention Advisor, Bureau for Crisis Prevention and Recovery, Africa Programme, United Nations Development Programme, Interview in Mai 2004 in New York, USA.

Loikkanen, Torsti: M.Sc. Econ., Customer Manager, VTT Technical Research of Finland, Interview in March 2007 in Bled, Slovenia.

Mannermaa, Mika: Futures Studies Mannermaa Ltd., Interview in July 2004 in Washington D.C., USA.

Müller, Christoph: Head of Department for Agriculture, Environment, Transport and Health in the Section Coordination of Federal Chancellery of Austria, Head of the Task Force Sustainable Development, Interview in January 2007 in Vienna.

Nelson, Ruben: Executive Director, Foresight Canada, Interview in Mai 2004 in Seville.

Niestroy, Ingeborg: Secretary General of the network of European Environment and Sustainable Development Advisory Councils (EEAC), Interview in July 2008 in Paris, France.

O'Brien, Nicole: UN Global Compact Office, United Nations Secretariat, New York, Interview in Mai 2004 in New York, USA.

Ogris, Günther: Managing Partner and Scientific Director of SORA Institute for Social Research and Consulting, Interview in Mai 2006 in Vienna, Austria.

Riegler, Klemens: Managing Director, Eco-social Forum Europe, Interview in October 2004 in Vienna, Austria.

Scapolo, Fabiana: European Commission, JRC, Belgium, Interview in Mai 2004 in Seville, Spain.

Spangenberg, Joachim: Vice-President of the Sustainable Europe Research Institute, Interview in July 2008 in Paris, France.

Steurer, Reinhard: Principal Researcher and Lecturer at RIMAS - Research Institute for Managing Sustainability Vienna University of Economics and Business Administration, Interview in January 2007 in Vienna, Austria.

Trattnigg, Rita: Department for EU-Affairs - Environment, Federal Ministry of Agriculture, Forestry, Environment and Water Management BM für Land- und Forstwirtschaft, Interview in October 2007 in Vienna, Austria.

Türk, Danilo: UN Assistant Secretary-General for Political Affairs (until 2005), presently President of Slovenia, Interview in Mai 2004 in New York, USA.

Voß, Jan-Peter, Head of research group "Innovation in Governance" at the Center for Technology and Society, Berlin University of Technology, research fellow at the Öko-Institut – Institute for Applied Ecology, Energy & Climate Division, Interview in June 2008 in Vienna, Austria.

Wagenaar, Hendrik: Associate Professor of Public Policy at Leiden University and Senior Researcher at the Netherlands Institute for the Study of Crime and Law Enforcement, Interview in December 2003 in Vienna, Austria.

Wagner, Ina: Professor for Multidisciplinary Systems Design and Computer-Supported Co-operative Work (CSCW) and Head of the Institute for Technology Assessment and Design, Interview in November 2005 in Vienna, Austria.

Yanow, Dvora: Faculty Member, Faculty of Social and Behavioural Sciences at the Faculty Member, Faculty of Social and Behavioural Sciences, teaching and writing on public policy analysis, organizational studies, and interpretive research methods, Interview in June 2008 in Vienna, Austria.

9. Appendixes

9.1. Abstract

Ever since 1997, sustainable development (SD) represents an overarching objective of the European Union set out in the Treaty, guiding all its policies and actions. As there is still tremendous amount of conflict and disagreement with regards to management and futures of governance for SD, policymakers increasingly turn to policy analysts for a reasoned policy advice. In its ideal form, policy analysis as a sub-discipline of political science applies theory and analytical methods in order to sharpen the focus of policymakers and identify critical issues and alternatives for public action. In particular, Foresight approach and futures research methods (FRM) represent progressively more popular means to produce policy-relevant strategic knowledge. In practice, policy analysts increasingly struggle to provide quality ex-ante policy advice on the ways to adapt governance for more SD. For governance for SD not only severely challenges the mainstream conceptions of policy analysis, but also the traditional role of policy analysts in policymaking.

This thesis critically questions the applicative potential of Foresight approach and of FRM to bridge the knowledge gap between policy analysis and governance for SD. It argues that this potential largely depends from the ability of policy analysts to orientate and adjust their choice and use of Foresight approach and of FRM to two factors: to the cognitive barriers of policymakers in terms of framing governance in the SD perspective and to the resulting theoretical, epistemological and research methodological requirements of policy analysis for governance for SD. In order to support such reflexivity and self-control of policy analysts, the thesis develops a comprehensive frame for Sustainability Governance Foresight (SGF). The frame comprises: (1) a typology of cognitive barriers of policymakers in terms of perceiving governance through sustainability lens, (2) a typology of shortcomings of mainstream theoretical approaches to policy analysis for governance for SD, (3) a paradigmatic typology of FRM for SGF, (4) a typology of epistemologies for SGF, and (5) a research methodological heuristic for SGF.

9.2. Zusammenfassung

Seit 1997 stellt nachhaltige Entwicklung (NE) ein im Vertrag festgelegtes übergeordnetes Ziel der Europäischen Union (EU) dar, welches für alle Maßnahmen und Strategien der EU maßgebend ist. Die entsprechende Anpassung von Governance für mehr NE stellt jedoch weiterhin eine höchst umstrittene Frage dar. Bei der Suche nach wissenschaftlicher Politikberatung wenden sich die Entscheidungsträger vermehrt an die Policy-Analysten. Idealtypisch verspricht die Policy-Analyse als Teildisziplin der Politikwissenschaft nämlich, durch gezielte Anwendung der Theorie und der analytischen Methoden den Fokus der Entscheidungsträger zu schärfen und die kritischen Fragen sowie Alternativen für öffentliches Handeln zu identifizieren. Insbesondere der Foresight-Ansatz und die Zukunftsforschungsmethoden stellen zunehmend populäre Mittel für die ex-ante Policy-Analyse für Governance für NE dar. In der Praxis stößt die Policy-Analyse jedoch an ihre Grenzen. Governance für NE stellt das etablierte positivistische Konzept der Policy-Analyse und die damit verbundene traditionelle Rolle der Policy-Analysten in Frage. Als Forschungsobjekt verlangt sie nach gezielter Refokussierung der Forschungsprioritäten und nach Erweiterung bestehender Forschungsgrenzen in der Policy-Analyse.

Die vorliegende Doktorarbeit prüft kritisch das Anwendungspotenzial des Foresight-Ansatzes und der Zukunftsforschungsmethoden für die Schließung der Wissenskluft zwischen der Policy-Analyse und der Governance für NE. Die Doktorarbeit zeigt, daß dieses Potential weitgehend von der Fähigkeit der Policy-Analysten abhängt, die Wahl und die Nutzung des Foresight-Ansatzes und der Zukunftsforschungsmethoden an zwei Faktoren auszurichten: an den kognitiven Barrieren der Entscheidungsträger bei deren Wahrnehmung der Governance aus der Nachhaltigkeitsperspektive sowie an den daraus resultierenden theoretischen, epistemologischen und methodologischen Anforderungen der Policy-Analyse für Governance für NE. Zur Unterstützung solcher Reflexivität und Selbstkontrolle der Policy-Analysten wird in der Doktorarbeit ein umfassender Rahmen für Sustainability Governance Foresight (SGF) entwickelt. Der Rahmen beinhaltet: (1) die Typologie der kognitiven Barrieren der Entscheidungsträger bei deren Wahrnehmung von Governance durch die Nachhaltigkeitslinse, (2) die Typologie der Defizite etablierter theoretischer Ansätze für die Policy-Analyse für Governance für NE, (3) die paradigmatische Typologie der Zukunftsforschungsmethoden für SGF, (4) die Typologie der Epistemologien für SGF, und (5) die forschungsmethodologische Heuristik für SGF.

9.3. Curriculum Vitae

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EDUCATION

Oct. 03 - present	INSTITUTE FOR POLITICAL SCIENCE, VIENNA UNIVERSITY, Vienna, Austria Ph.D. Studies in Political Science
Jun. 07 – Mar. 11	FEDERAL ADMINISTRATION ACADEMY, Vienna, Austria Basic Training in Law, Economy, and Public Administration
Aug. 08	EUROPEAN FORUM ALPBACH, Alpbach, Austria Seminar in 'Climate Change and what we need to do about it'
Apr. 06	BUSINESS CIRCLE, Vienna, Austria Training in 'Management of Relationships and Networks' <ul style="list-style-type: none"> • <i>Title:</i> Certified Business Relationship Manager
Sep. 01 – Jun. 03	SOUTHERN-STATE TEXAS UNIVERSITY, Austin, USA / COLORADO UNIVERSITY, USA / UNIVERSITÀ DEGLI STUDI DI SIENA, Italy / VIENNA UNIVERSITY, Austria Interuniversity EU-USA MA Specialisation Programme in 'ICT-s & International Organisational Communication'
Oct. 03 - present	INSTITUTE FOR JOURNALISM & COMMUNICATION SCIENCE, VIENNA UNIVERSITY MA in Journalism and Communication Sciences / Musicology <ul style="list-style-type: none"> • <i>Title:</i> Mag.Phil., with Honours • <i>MA Thesis:</i> Möglichkeiten, Grenzen und Herausforderungen der Sicherung von Lern- und Lehrqualität in interuniversitären web-basierten Lernumgebungen
Sep. 01 – Mar. 02	UNIVERSITÉ PARIS NORD, Paris, France Exchange Semestre on the EU Grant ERASMUS-SOKRATES
Sep. 93 – Jun. 97	II. GIMNAZIJA & MUSIC CONSERVATORY, Maribor, Slovenia High School Graduation (Matura) with Honours & Graduation in Classical Piano

FELLOWSHIPS AND SCHOLARSHIPS

2004 - 2007	Research Fellowship at the American Council for United Nations University (ACUNU), Washington D.C., USA
2005 - 2006	Dissertation Fellowship at the Ecosocial Forum Europe, Global Marshall Plan Initiative, Vienna, Austria
2003 - 2005	Zoisova Dissertation Fellowship tenable for highly gifted students of the Republic of Slovenia
2003 - 2005	Ad Futura Dissertation Fellowship of the Republic of Slovenia
1997 - 2002	Zoisova Masters Scholarship of the Republic of Slovenia tenable for highly gifted students

BIBLIOGRAPHY (SELECTED)

2011	Jakil, A.: Operationalisation of Sustainable Development for the Austrian Mid-Term Strategy for Sustainable Development: A Note Towards Conceptual Clarification, Project Work in the Frame of the basic training at the Federal Chancellery of Austria. Vienna, 2011
2010	Freytag, E. / Jakil, A. / Müller, C.: Europäische Union / Suche nach Synergien

	zwischen den Strategien, in: Journal Nachhaltigkeit, 2010/1. Wien, 2010
2010	Jakil, A.: Bundeskanzleramt als Partner der bundesweiten Initiative ‚Wachstum im Wandel‘, in: VOTUM, 15, Wien. 2010
2008	Jakil, A.: Sustainability Governance Foresight as a Policy Tool for Informing Governance for Sustainable Development, in: Sitar, M. (Hg.): Urban Futures, Maribor, 2008
2006	Jakil, A.: Izzivi senzibiliziranja politik za dolgorocne globalne trende, in: Le Monde Diplomatique – Slovenija 2/10, 2006
2005	Glenn J. / Gordon T. / Jakil A.: Challenges and frontiers of futures research: What's next?, in: Technological Forecasting and Social Change, No. 72, 2005

PROJECTS (SELECTED)

2011 - present	Gesamtösterreichische Nachhaltigkeitsstrategie des Bundes und der Länder, Interdepartmental Project of Section IV of the Federal Chancellery of Austria, Working Group Member.
2010-present	Towards Institutionalising Sustainability Impact Assessment (SIA) within the OECD, OECD AMSDE project to explore design and institutionalisation options for SIA within the OECD, Chair of the SIA Steering Group.
2009-present	Growth in Transition, a project to advance the dialogue about reshaping the societal development towards sustainability and measuring growth beyond GDP, Consortium of 14 partner organisations including Federal Chancellery of Austria, Member of the Steering Group.
2009-2010	SIA Screening of the Interim Report of the OECD Green Growth Strategy, an OECD AMSDE project to conduct Sustainability Impact Assessment of the OECD Green Growth Strategy, Member of the Green Growth Steering Group.
2009-2010	Guidance on Sustainability Impact Assessment (SIA), OECD AMSDE project to present a general approach to conducting Sustainable Impact Assessment, Member of the SIA Steering Group.
2009	International Education for Sustainable Development-Co-operation within UNECE, UNECE Reporting Project on Austrian activities to strengthen co-operation on Education for Sustainable Development within the UNECE region', Member of the UNECE Reporting Working Group.
2009	SIA Screening of the Interim Report on the OECD Innovation Strategy, OECD AMSDE project to conduct Sustainability Impact Assessment of the OECD Innovation Strategy, Member of the SIA Steering Group.
2004-2009	Global Challenges, Annual Research Contributions to Update Annual Reports on the 'State of the Future', AC/UNU, Doctoral Fellow.
2003-2006	Sustainability Governance Foresight / Bridging the Gap between the Policy Analysis and Governance for Sustainable Development, Doctoral Research Project funded by Ecosocial Forum Europe, Doctoral Fellow.
2005	Conceptualisation of Virtual Participatory Global Marshall Plan Think-Tank, Feasibility Study to Elaborate a Web-Based Platform for Global Dissemination and Advancement of the Ecosocial Market Economy Concept, Ecosocial Forum Europe, Doctoral Fellow.
2005	Futures Research Methodology, Series 3.0, Millennium Project Initiative to update the global collection of internationally peer-reviewed chapters on futures research methodology, Doctoral Fellow.
2004-2005	'DeScripto' SOUTH EAST EUROPEAN MEDIA Report, Joint Research Project of University of Vienna and University of Applied Sciences Vienna, under the auspices of the South East Europe Media Organisation, Research Project Manager for Prof. Thomas A. Bauer.
2003-2004	Sustainability Communication: Setting the Sustainable Development Concept on Public Agenda, Plausibility Study for Environmental Bureau of Lower Austrian Provincial Government, Vienna University, Research Project Manager for Prof. Thomas A. Bauer.

2002-2004	European Master in Future and Foresight Studies', EC-Funded Plausibility and Feasibility Studies to Elaborate Curriculum and Web-Based Platform for European MA Program in Futures Studies & Foresight, Consortium among Vienna University and 11 European Universities, Research Project Manager for Prof. Thomas A. Bauer.
2002-2004	Conceptualisation of Ecological Awareness Campaign for 'Landesgartenschau 2008-18' in Tulln, Research Project for the Environmental Bureau of Provincial Government of Lower Austria, Vienna University/GALLUP Institute, Research Project Manager for Prof. Thomas A. Bauer
2002	Cultural Analysis of the Environmental Communication of Lower Austrian Provincial Government (LAPG), Feasibility Study for Environmental Bureau of LAPG, Vienna University, Research Project Manager for Prof. Thomas A. Bauer

TEACHING EXPERIENCE

SS 01 – WS 04/05	Institute for Journalism and Communication Sciences, Vienna University <i>Study Assistant for Univ. Prof. Dr. Thomas A. Bauer</i>
SS 04	696309 SE zum Praxisfeld Öffentlichkeitsarbeit: Future Studies
SS 04	696308 SE Kommunikationswissenschaftliches Seminar, Umwelt im medialen Diskurs
WS 03/04	609425 SE zum Praxisfeld Medienforschung. Umwelt im medialen Diskurs
WS 03/04	609345 UE Kommunikationswissenschaftliches Seminar: Future Studies
SS 03	609428 UE Umwelt im Mediendiskurs
SS 03	607300 VO+UE zum Praxisfeld Öffentlichkeitsarbeit: International Organizational Com
SS 03	600656 SE Kommunikationswissenschaftliches Seminar: Future Studies
SS 03	600648 SE zum Praxisfeld Medienforschung. Medienkulturen: Stadt Kommunikation und urbane Kultur
SS 02/03	609425 SE zum Praxisfeld Medienforschung. Medienkulturen
WS 02/03	694137 SE zum Praxisfeld Öffentlichkeitsarbeit: International Organizational Comm.
WS 02/03	600096 UE zum Praxisfeld Journalismus: Projekt Umwelt im Internet, Redaktionswerkstatt
WS 02/03	609428 UE zum Praxisfeld Journalismus/Öffentlichkeitsarbeit: Umwelt im Internet
SS 02	607300 VO+UE zum Praxisfeld Öffentlichkeitsarbeit: Organisation - Kultur - Gesellschaft
SS 02	600648 VO+UE zum Praxisfeld Medienpädagogik: Medien- und Kommunikationskultur
	<i>Tutor for Univ. Prof. Dr. Thomas A. Bauer</i>
WS 04/05	696553 SE FOSE - Umwelt im Mediendiskurs
WS 04/05	696841 SE FOSE - Future Studies. Krise, Hoffnung, Erwartung, Überraschung
SS 01	607300 SE Filmische Visionen - Visionäre Filme
WS 04/05	California State University, Dominguez Hills, Los Angeles, California, USA Department 'MA in Negotiation, Conflict Resolution and Peacebuilding <i>Teaching Assistant for Univ. Prof. Dr. Linda Groff</i> NCR 504.41: Theories of Conflict. Distance Learning Course. Graduate Program
SS 04	Institute for Political Science, Vienna University, Austria <i>Tutor for Univ. Prof. Dr. Eva H. Kreisky</i> 694170 PS Grundkurs Politische Theorien
<i>Invited Lectures:</i>	
2007	Ist die EU auf dem Weg zur Nachhaltigkeits-Union? – Die erneuerte EU Strategie für nachhaltige Entwicklung, Lecture in the lecture series on ‚Europäische Reformagenda für Wachstum, Beschäftigung und Nachhaltigkeit‘, Federal Administration Academy, Vienna.
2003	Assurance of the Research and Learning Quality in the Interuniversity Web-Based Learning Environments, Interuniversity EU-USA MA Specialisation Programme in 'ICT-s & International Organisational Communication', Colorado University, Colorado Springs, Mai 03

PRESENTATIONS AND TALKS (SELECTED)

2010	Jakil, A. / Steiner, T.: Die Gesamtösterreichische Nachhaltigkeitsstrategie ÖSTRAT, Presentation at the ‚Platform ÖSTRAT – Initiativenwerkstatt‘, Leibnitz, 18. Nov. 2010.
2010	Jakil, A.: Sustainability Impact Assessment - Progress Report from Steering Group Chair (Austria), Presentation at the ‚Annual Meeting of OECD Sustainable Development Experts‘, Paris, 18-19. Oct. 2010.
2010	International Conference ‚Growth in Transition‘, Planning and Organisation of the ‚Governance Session‘, Vienna, 28.-29. Jan. 2010.
2008	Jakil, A.: Climate Change Policies in the EU, Introduction / Chairing of the Session ‚The need for Innovative Philanthropic Engagement‘ at the Int. Conf. ‚Global Philanthropists – Partners for a Knowledge based Response to Climate Change‘, Portorož, 1. Jun. 2008.
2007	Jakil, A.: Die Rolle der BürgerInnen in der Nachhaltigkeitsunion Europa: Aktive Mitgestaltung oder Ohnmacht?, Moderation des Arbeitskreises im Rahmen des Workshops ‚Steuert die EU in Richtung Nachhaltigkeitsunion?‘, 14. Nov. 2007.
2007	Jakil, A.: Future-Oriented Policy Analysis: A Tool for Creating Foresight on Sustainability Governance, Paper at the VIII. Bled Forum - Foresight Conference on ‚Governing Futures‘, Bled, 2. Mar. 2007.
2007	Jakil, A.: Die klimapolitischen Rahmenbedingungen auf nationaler und EU Ebene, Presentation at the expert discussion ‚Wohin mit den Küchenabfällen? - Logistikkonzept zur effizienten Sammlung biogener Abfälle als Input für Biogasanlagen‘, Vienna, 22. Nov. 2007.
2006	Jakil, A.: Systematisation of Futures Research Methods: Exploring Limits, Opportunities and Challenges of Futures-Oriented Policy Analysis, Paper at the VII. Bled Forum - Foresight Conference on Global, European and Regional Governance, Bled, 3. Mar. 2006.
2004	Jakil, A.: Systematisation of Futures Research Methods, Paper at the International Workshop ‚Mastering the Future‘, Malaga University, Socrates Project ‚European Master in Future and Foresight Studies‘, Malaga, 23.Oct. 2004.
2004	Jakil, A. (for ACUNU): Integration and Frontiers of Futures Research Methods, Paper at the EU-US Seminar on ‚Technology Foresight & Forecasting Methods‘, Seville, 13. Jun. 2004.
2004	Jakil, A.: Future Studies. Zukunft als medienethische und medienpädagogische Herausforderung. Paper presented at ‚Fachtagung der EU-Projektgruppe Ethik-Media‘ of the ‚Gesellschaft für Pädagogik und Information‘ des Instituts für Publizistik- und Kommunikationswissenschaft der Universität Wien, 11. Jun. 2004.

FUNCTIONS (SELECTED)

2010 -	Member of the Steering Group ‚Gesamtösterreichische Nachhaltigkeitsstrategie‘
2010 -	Member of the Advisory Board for Environment of Statistic Austria
2010 -	Deputy Member of the Advisory Board for Transport of Statistic Austria
2009 -	Chair of the OECD AMSDE Steering Group ‚Sustainability Impact Assessment‘
2009 -	Member of the OECD AMSDE Steering Group ‚Post-2010 Sustainable Development at the OECD‘
2009 -	Member of the OECD AMSDE Steering Group ‚Green Growth‘
2008 -	Member of the ‚Österreichische NachhaltigkeitskoordinatorInnenkonferenz‘
2008 -	Member of the ‚Komitee für ein nachhaltiges Österreich‘
2008 -	Member of the European Sustainable Development Network
2008 -	Member of the BMLFUW Technical Working Group ‚Emission Trading‘
2007 -	Member of the ‚Österreichischer Rat für nachhaltige Entwicklung‘
2007 -	Deputy Member of ‚Kommission in Angelegenheiten des Österr. JI/CDM Programms‘
2007 -	Member of the Bled Forum Futures Committee
2008 -2010	Head of the Austrian Delegation at the OECD Annual Meeting of Sustainable Development Experts (AMSDE)

2008 - 2010	Deputy Member of 'Kommission in Angelegenheiten der Altlastensanierung und -sicherung'
2008 - 2010	Deputy Member of 'Kommission Umweltförderung im In- und Ausland'
2009	Member of the Working Group 'Global Marshall Plan - Global Governance'
2007 – 2009	Member of the Austrian Interministerial Committee Climate
2007-2009	Deputy Secretary General of the Executive Committee of International Association for the Advancement of Innovative Approaches to Global Challenges
2007	Member of the Austrian Delegation to Climate Change Talks of the Parties to the UNFCCC

OTHER PROFESSIONAL EXPERIENCE (SELECTED)

Jul. 07 – present	Federal Chancellery of Austria, Vienna, Austria Department IV/2 – Coordination of Environment, Sustainability and Transport Policy <i>Desk Officer</i>
Oct. 08 – Dec. 08	Permanent Representation of Austria to the European Union, Brussels, Belgium Federal Chancellery Department <i>Desk Officer on Rotation</i>
Sep. 01 - Sep. 05	PR Officer / Intern On contract with Ecker & Partner, Vienna / Europainformationsagentur, Vienna / Wiener Taschenoper, Vienna / Atlantic Television, New York City, USA / New York City College, New York City, USA / Télé Cité Internationale de la Cité Internationale Universitaire de Paris (Head of Communications), Paris, France
Sep. 97 – Mar. 02	Journalist / Foreign Affairs Correspondent / Editor On contract with the Austrian National Broadcasting Corporation ORF (Radio Donau Dialog-Forum for Multilingual International Communication) / POP TV (Nightly Television News), Ljubljana, Slovenia / NBC Affiliate KSNF Channel, Joplin, Missouri (Nightly Television News), USA / Radio Television Slovenia (3. Radio Programme ARS), Ljubljana